

SCHOOL AND COLLEGE.

ANGLO-SAXON AS A COLLEGE STUDY.

THE teacher of English is engaged in a task at once the easiest and the hardest of all. The language in which he instructs his students is their own by birthright, and it is spoken by two of the five great nations of the contemporary world,—the two nations which encircle the earth by an aggressive and rapidly multiplying population in commonwealths and colonies. English is the oldest and yet the most virile of modern languages ; it was the first to emerge in any notable way from the wreck of ancient civilizations and literatures, and its age may fairly be called twelve hundred years ; but no predecessor or rival ever showed such an unceasing power of assimilating words and idioms from the speech of other peoples, ancient and modern. Its comprehensive vocabulary contains, as represented in the latest dictionaries, from 225,000 to 300,000 words ; yet that Saxon persistence which, in the earliest versions of the Gospels in English, refused to use more than a trifling percentage of terms derived from the Latin of the *Vetus Italica* version, still preserves the old Teutonic expressions as the basis of living English, however enriched by the spoils of classic learning or modern geographical expansion. English, too, may, fairly enough, claim to be the vehicle in which has been presented what is, on the whole, the greatest literature of the world,—not greater than the Greek in majesty, or than the French in rhetorical felicity, or than the Italian in verbal melody, but combining merits not gathered in the aggregate of the best books of any other tongue.

These obvious considerations, by their very richness, also make it clear that the teaching of English is in one sense the hardest of tasks, because of its vastness. It ranges from Shakespeare to the daily newspaper; its vocabulary is constantly willing to grow, with a ready acceptance of new words and idioms that is the amazement of cultured French critics; and the freedom which has been one cause of its triumphs sometimes degenerates into a verbal license which does not give the best promise of strict intellectual discipline to the careful student. At its best, it is not a highly inflected language; even more than others, its manipulation must be artistic rather than scientific; and its forms, inflexible in a few things, are so variable in many things that sciolists have even declared it to be a "grammarless tongue." English study, it may frankly be confessed, does not strongly appeal to those who like a quasi-mathematical strictness of intellectual process and expression; or who discover, in so noble a tongue as the Greek, what they deem a much more notable union of weight and flexibility, — a quality which, for lack of a better term, may be called linguistic tidiness. As regards English literature, a combination of philological and critical reasons have led many nominally intelligent Englishmen to aver, within recent years, that it cannot be made a practicable means of mental discipline on the lines hitherto familiar at Oxford and Cambridge, — a statement which the most ardent lover of English will not necessarily deny.

Yet the study of the English language, rightly viewed, is capable of giving an intellectual training in many ways unsurpassed. It enables us to apply to the general our investigations of the particular, and, on the other hand, to comprehend the individual case because of our understanding of the evolutions which have characterized the centuries since Cædmon. Intelligent students now perceive that effects can only be apprehended by the investigation of causes. Growth and development of words, as shown, for instance, in the great new Oxford dictionary, prove not less truly than does physical science that — as is said in a stanza written humorously but neatly expressing a truth —

"The centuries kiss and commingle,
Cling, clasp, and are knit in a chain;
No cycle but scorns to be single,
No two but demur to be twain."

Our dictionaries are now perceived, by all save the half-educated, to be recorders, not law-givers; summaries of precedents, not changeless creeds. The makers of "English grammars" are learning that they cannot equip their books with brand new schemes of declension, conjugation, or even comparison of adjectives, but must ground their inflections on historical lines of growth. Linguistic liberty is not linguistic anarchy; our grammatical and rhetorical principles are all the more important because, relatively, they are so free and so few. He who views, and wishes to utilize, a broad domain, must gain a strength unknown to the petty investigator of a dainty corner. Rightly undertaken, therefore, English study demands of teacher and learner a constant and intelligent handling of the latest and largest word-lists; a recognition of the fact that no true knowledge of our one great declension and two great conjugations can be had without tracing their continuity and their changes since King Alfred's day; a belief that rhetoric is not a dull English imitation of Aristotle and Quintilian but a sympathetic and alert apprehension of the canons of good use as exemplified by the best writers and speakers; and, last and most important of all, an understanding that philology is as much less important than ideal literature as mechanics is less important than architecture, or paint-mixing than painting.

If, then, English study is thus related to English and American linguistic history, we cannot ignore the general view, and yet must investigate special subdivisions so thoroughly as to secure the good that comes only from honest labor of the sort — "infinite riches in a little room." The masterpiece of art is greater than the technical detail, yet the knowledge of each illuminates that of the other. We perceive the parts because of our view of the whole, and learn of the mass by closely scanning the fragment. Happily, our preparatory and other secondary schools are putting literary classics into the hands of

pupils, who thus may early learn—as did their grandparents even when they “parsed” *Paradise Lost*—that if the pedagogue teaches them, the poet or other master of words teaches the pedagogue. The time is still too far removed when English will be pursued symmetrically and continuously from the primary school to the university; but so much gain has been made within two decades that one becomes confident that not much longer will collegians or teachers have to unlearn the grammar they studied in school-days, or be urged to get their first taste of Spenser and Keats, Bacon and Gibbon, Hawthorne and Emerson, in Junior year. Whatever remains to be done, it is yet true that American schools and colleges are better off than British in this regard,—perhaps, for one reason, because the lover of American literature and American institutions *must* know something of their predecessors, and so perforce begin literary, linguistic, and historical work on the comparative method.

The study of Anglo-Saxon, therefore, in college or elsewhere, is simply an investigation into linguistic and literary origins at once interesting and important. The term Anglo-Saxon, which here means, of course, simply old English, is useful enough if employed in a sense similar to that in such expressions as “Anglo-Saxon freedom,” “the Anglo-Saxon temper of Great Britain,” etc. It is useless, or positively mischievous, in so far as it creates or confirms the notion that the “Anglo-Saxon language” is a tongue foreign to our own, which preceded modern English in some interesting but unconnected manner, to be traced by antiquarians who choose to enter upon such discussions, but wholly superfluous for the student of living English and its true literature. “Life is too short for such things,” said one of his friends to a member of my first Anglo-Saxon class in college, when told by that student of the work in which he was engaged. This critical bystander evidently regarded Anglo-Saxon as having a serviceableness or attractiveness about equal to that to be found in Dr. Windisch’s *Old Irish Grammar*, and decidedly less beneficial for Americans than would be, for example, a course in Russian. Even Mr. Churton Collins,

naturally indignant that the Oxford authorities, at length in possession of a professorship of English literature, filled it by the choice of a competent young philologist, has written quite savagely of the slight benefit of readings in Anglo-Saxon poets and prose-writers to students of the tongue of Chaucer, Milton, or Sir Thomas Browne.

In itself, the nascent literature which produced the verse attributed to Cædmon, the vigorous semi-epic of Beowulf, the terse and clear versions of the Gospels, the noble and graphic Anglo-Saxon Chronicle, and some minor writings, may not be called absolutely great or of a commanding inherent value to him who would get the most exact linguistic discipline or the highest æsthetic delight. But the very imperfections, irregularities, and uncertainties of the tongue afford an excellent drill to students for years accustomed to deal with highly-developed and long-finished Greek and Latin, and wont to turn to their grammars and dictionaries as finalities. To learn to collate and investigate, and, as is sometimes necessary in this case, to indulge in modest but alert guesswork as to the meaning of some ill-understood word employed but once or twice in a scanty vocabulary, — all this may well occupy, for a few months, men who have been thumbing their Liddell and Scott for five years. Furthermore, as has been said, these poor Anglo-Saxon writings were the first original and promising products of the new mind of old Europe, struggling to fresh efforts after the Roman Empire and its mighty civilization had crumbled in decay. Then, too, there was never a time when Anglo-Saxon sharply ended and English began; the development of declensions, conjugations, spellings, and grammatical forms was as gradual as the growth of a school-boy into a collegian. The Norman Conquest was only a set-back, — not a defeat; and just as the Anglo-Saxon Gospels were but slightly touched by the influence of the Latin from which they were taken, so even the Canterbury Tales were far more English than French. The advantages of studying the English language and literature from Cædmon to the Ormulum are respectable *per se*, but, considered relatively toward later English, they are so great as

speedily to prove fascinating to many alert young men. These students discover that they can begin at Alfred's day and follow the masterpieces step by step, without any conspicuous break in the march, down through the centuries; or, reversing the method, they can proceed backward, by easy gradations, through Shakespeare, Bacon, Spenser, Malory, Chaucer, Gower, Mandeville, the Ancren Riwe, the Ormulum, Layamon, Ælfric, and the Chronicle, to Alfred's golden reign.

It should not be forgotten that a brief elementary course in Anglo-Saxon is all that most students will ever be able to undertake. With the constantly increasing pressure of many studies upon the four years of the college curriculum — a pressure now made stronger by the demand that professional work be pushed back into Senior year, few can follow Sievers and Sweet in their intricate discussion of Old English phonology. The time usually allotted to the subject is so small that not an exercise can be wasted. The college student must be introduced at once to the essentials of Old English, omitting many points of interest and value for the philologist, and well worth investigation in courses for graduates. But whether he stops with an elementary view, or is led to pursue the study for its own sake in later and painstaking university work, in neither case should its *interestingness* be covered. So long as some professors of English and so enthusiastic a promoter of literary study as Mr. Churton Collins do not perceive its utility or enjoyableness, young men of twenty can hardly be expected to "take to it" naturally, or to be tempted to continue in its pursuit, without some element of attractiveness in its presentation. I never deemed that teacher wise who, when I was a child beginning Greek, made me commit twenty pages of introductory phonology before I knew the difference between an aorist and an optative. A similar method is no wiser for the majority of students beginning Old English.

Their instruction, it seems to me, should constantly be on historical lines in the grammar, and on comparative lines in the literature. Call to their notice, at the very start, the modifications in the English alphabet, letter by letter, from the seventh

century to the nineteenth, — modifications continuing to-day ; show the relation between the chief Anglo-Saxon noun-declension and that of this century ; and, on the basis of their Anglo-Saxon work, ask them to decide whether our modern “ possessive ” case has genitive powers. Compare, in general and in detail, the old pronoun-system with the new, and inquire how far the feeble Anglo-Saxon relative injured the powers of English speech, and when and how a remedy came. The discussion of strong and weak verbs swarms with questions of interest to those whose clearer memories of Greek and Latin, French and German, have too often left on their minds an impression of English grammar at once misty and annoying. The idea of English grammar is often wholly reconstructed in twenty Anglo-Saxon exercises for those who, for the first time, begin to learn that, notwithstanding all its freedom, it has a historical basis as potent as it is interesting. Those Anglo-Saxon textbooks or teachers make a great mistake, it seems to me, who isolate the language and its illustrative literary extracts from any living continuity with the speech and books of later years. They intensify the mischievous impression, already too prevalent, that the study of Anglo-Saxon is a study of “ remains ” ; while the comparative method gives a clear, consecutive, unified view of the subject. Anglo-Saxon, of course, should be pursued seriously, laboriously, maturely, but also broadly ; thus the man who never attains more than a knowledge of its elements will make those elements of instant and enduring service in his use or teaching of our modern tongue ; while he who proceeds, perhaps, to the degree of Doctor of Philosophy as the reward of his investigations in early English philology will have nothing to unlearn, and will have got a glimpse of his goal at the very start.

As regards the time in the college course best fitted for beginning Anglo-Saxon work, whether in the general way or in the technical, circumstances so vary in different institutions that no broad statement can be made. Most of our colleges arrange their courses, though substantially the same, in different orders. Where a symmetrical English course is possible

throughout four years, with well-arranged required, elective, and optional studies, in the hands of a corps of instructors numbering at least one for each one hundred undergraduates, manifestly much better results can be secured than where a single instructor is expected to take charge of all rhetorical, linguistic, literary, or even oratorical work in English. In general, however, it seems to me that the advantages of giving Freshmen and Sophomores an early training in Anglo-Saxon, as introductory to later studies, are overbalanced by the increased maturity brought to the work by Juniors or Seniors who have spent, of course, much more time in ancient and modern languages. German, if taken before Anglo-Saxon, throws considerable light on its fellow-Teutonic tongue; but still more important is the power likely to be possessed, by a collegian at the age of twenty-two or twenty-three, of constructing in some sense a grammatical scheme for himself, or at least of interpreting our ancient grammar by the aid of the grammars of the other languages he has already studied, the forms of which he intuitively employs in various suggestions of contrast or similarity. He is struck at once by the two great proofs of the substantial unity between the English of 875 and the English of 1892: the possibility of translating the former into the latter without such changes of order as must be made in rendering a foreign tongue into English; and the surprisingly-large percentage of Anglo-Saxon words—in some extracts rising as high as ninety or ninety-five—now in daily use.

The inherent interestingness of the general body of Old English prose and verse may be made so apparent, in the first few exercises of the course, as to draw the student enthusiastically forward. To the majority of them it is better to show the philology through the literature, than to make the literature invisible or odious because of the philology. In the Anglo-Saxon Chronicle, in parts of *Beowulf*, or in such a piece of middle-English naiveté as the *Ancren Riwe*, quaintness, freshness, and vividness combine in allurements, while in the Chronicle in particular the college student keenly enjoys the privilege of working at first-hand among the sources of history, and of

discovering for himself the qualities of conciseness, evident trustworthiness, or grim humor in one of the most self-centred and unartificial of annalistic writings. If the Anglo-Saxon student be warned not to indulge in special pleading for his theme, and, in particular, if exaggerations of its intrinsic merits be not forced upon him, he soon becomes an earnest and intelligent, because untrammelled, advocate of the linguistic and literary advantages of its pursuit. Anglo-Saxon grit and power of assimilation were as manifest, in small ways, before the Conquest as they have been since, in the larger development of English and American life and letters; and even were the student to go no further than to learn this for himself, his time would be well spent.

Instead of further words of my own, let me close by culling some extracts from themes or examination papers written within the last few years by students in Dartmouth College. These citations not only show what they ought to think, or what their instructor thinks, but give their variant individual impressions after a period of study which was made, by the exigencies of a crowded curriculum and a present lack of teaching force in English, all too meagre.

In the first place, Anglo-Saxon is clearly English: "Klemm, in his 'History of German Literature,' recently published, catalogues Anglo-Saxon among the dead languages, and places the beginning of English at about the eleventh century. Now, if Klemm would define a dead language as one which a descendant of those who spoke the language can neither read nor understand without study, then Anglo-Saxon is a dead language. This, however, could not be a definition; for here development would be confounded with death." Another writes a little more at length concerning the same topic, and cites illustrations showing the unvarying use of the adjective or noun "English" as descriptive of contemporary speech between 875 and 1225: "During the period usually attributed to Anglo-Saxon the writers themselves use the word 'English.' . . . Alfred and Ormin and the monks never dreamed they were writing in 'Anglo-Saxon.'" Another is impressed by the fact that English "pre-

sents the curious anomaly of a language which becomes less and less perfect in its inflection as it becomes more and more perfect in its general structure and habiliments. It is only from its study that one can expect to arrive at anything like a correct idea of the origin and growth of the English of to-day, not to speak of English grammar as at present taught." A little computation was made by the writer of the following: "As a test for the continuity of the language, by taking at random three passages of fifteen lines each from each of the selections read, we find the average per cent of the words having living representatives in the English of to-day to be as follows: in the Gospel according to St. John, ninety-four per cent; in the Homily on the Birthday of St. Gregory, sixty-eight per cent; in King Alfred's Version of Boethius *De Consolatione Philosophiæ*, eighty-three per cent; in the selection from the Anglo-Saxon Chronicle, ninety-three per cent; in the *Ancren Riwe*, ninety-four per cent; in the *Ormulum*, ninety-seven per cent."

Other students are more inclined to dwell on the literary elements. Says one: "The words (of the Anglo Saxon Gospels) are those of a child; Christ is the healer, his disciples learning-knights, and the world the middle-earth in distinction from heaven and hell." Another is of the opinion that, "In fact, all through the work of those monks (who wrote the Chronicle) such pathetic remarks crop out, in language odd even for that time, that one is tempted to regret that they did not try 'metrical verse.' It would but have been a change in form, for in thought they were already poets."

Passing over many similar expressions which I have noted in other examination papers, — expressions of truths that ought to be obvious and universally known, but, unluckily, are unfamiliar to some and disbelieved by others, — I take three more extracts from papers written in college by men who have since pursued graduate studies in American or foreign institutions, and whose specialties, respectively, are history, philosophy, and creative poetic literature. The first says: "Historically and politically, the study of Anglo-Saxon is exceedingly important. Our earliest laws and earliest history as a nation must be learned from

Anglo-Saxon. Our present government and laws cannot be consistently and successfully interpreted unless we understand their origin and their inherent, native characteristics. Without unity of government, the ancient Greeks attained community of life, purpose, and ideas through the study of Homer as their common master. Homer was the point of separation between Greeks who knew him and barbarians who knew him not. The opponents of the Sophists were not wrong in their recognition of the danger that threatened Greece when educated men should fail to study the great masters. To-day the English-speaking people will lose one of their greatest means of unity and national greatness if they fail to study and pattern after their earliest and greatest writers. And who will say that to understand Chaucer and Spenser critically one must not have studied Anglo-Saxon?"

The second writer, from the standpoint of the student of philosophy and ethics, looks back through the centuries and perceives the bright beams of the little Anglo-Saxon candle: "It only remains for us to say a concluding word on the position of the (Anglo-Saxon) literature as a whole. We cannot expect it to take its place among the foremost literatures of the world. It would be idle to compare it with those of Greece, and Rome, and France, for it is only a beginning, an early period in a literature which, in its later growth and full development, excels all these. The only fair comparison is with similar periods in other literatures; but where are we to find such periods? Rome, at the close of the ninth century, had not only become feeble and restricted in political power, but long before, her literature had gone into the hands of corrupt monks, so that the darkest of dark ages — when that once lighted becomes dark again — had fairly commenced. Centuries must pass before we look to Italy again. The Icelandic literature had hardly begun, and did not reach its high position till toward the close of the thirteenth century. Germany and France have tried to create corresponding periods from the *Nibelungenlied* and the *Chanson de Roland*, — great poems, doubtless, but, whether we consider them or the periods they represent, not comparable to

our (so-called) Anglo-Saxon literature. For three or four centuries, then, England's literature was the best, because there was no other to compare with it ; and it yet remains a light from the dark ages, influencing the noble and beautiful literature that has followed it."

The last writer has some stinging words for certain old-fashioned English grammars that were very unlike Whitney's admirable book, with its combination of a sound historical method and a constant presentation of the living facts of our language. But a righteous indignation may be permitted to those who naturally regret that important facts were so long withheld from their knowledge : "There is one abuse, caused by the present insufficiency of attention to English studies, which I cannot pass by unnoticed. English grammar has been made a thing of shreds and patches, — a jumping-jack for grammarians, a laughing-stock for literary artists, and a thumb-screw for the small boy. Despicable and culpable incapacity and ignorance on the part of our grammarians is the cause of this confusion worse confounded. They have attempted to force the alien syntax of Greek and Latin upon our tongue ; they have gone to the other extreme and presented it as a Chinese collection of uninflected roots ; and I venture to say boldly, that in not one school in England or America to-day (1885), is anything like a correct knowledge of genuine English grammar taught. What is taught is about as nearly correct as the old rule in the primitive elocution of the district school, that informed the ambitious young orator that he must count one at every comma, two at every semi-colon, three at each colon, and four at each period.

"Now, grammar is a growth, and no petty writer of school-books — no, nor even a French Academy — can invent it ; they can only discover it. And the only way in which this discovery can be made, developed, and completed is to search the history of the language and of its mighty writers, from Cædmon to Swinburne, with all the unprejudiced reverence for 'the facts' and all the energy and zeal that Darwin and Tyndall have devoted to physical science."

A study which illuminates grammar, suggests vigorous

thought, promotes sound ethical conceptions, strengthens spoken and written speech, develops a broad sense of an honorable heritage, and brings to light the far sources of a great literature, surely ought to brighten whatever part of the college course may fall to its lot.

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CLASSICAL STUDY.

HOW IT MAY BE MADE MORE INTERESTING FOR PREPARATORY STUDENTS.

THE so-called "Classical Question" has in large measure ceased to engage public attention, so far at least as it relates to the place of Greek and Latin in the programme of liberal education. A while ago the mere mention of the classical curriculum had in certain quarters very much the same effect as the red rag brandished by the matadore in the face of a bull in the Spanish arena. The somewhat violent shaking up which it then received has had several beneficial results. While it has helped to secure for the sciences and for modern literatures due recognition as elements of liberal culture, it has at the same time accomplished much for the genuine progress of classical education itself. It has brought into clear relief the solid practical benefits to be derived from the study of the classics, in the discipline of the mental faculties, in cultivating the taste, judgment, and imagination, in helping the student to a better knowledge of his own tongue, and in bringing the mind into direct contact with great peoples remote from our own time, living under altogether different conditions and, especially in the case of the Greeks, possessing an intellectual force and virility, which have left a permanent impress upon all subsequent thought and literature and have given to modern times the supreme standards of literary form and expression. It has defined more distinctly the precise ends which classical instruction should always keep in view, and thus has led to a revision of the old methods of teaching these languages, so that they never have been so instinct as now with living energy as material for use in the processes of education. But it is not our present purpose to offer any plea in behalf of classical study. If rightly conducted, it may be trusted to vindicate

itself. At present the most important phase of the classical question is not whether sufficiently substantial advantages can be obtained, to justify the study of the classics, but rather how these advantages may be most certainly and most fully secured.

To obtain substantial, lasting benefit from any study, it is necessary that the student should have his interest in it aroused and sustained. It must, so far as possible, be made attractive to him from the outset. The educational world has been a long time in reaching this conclusion, and as yet has scarcely more than begun to make it effective in practice. Food for the body, to be readily assimilated, must be eaten with a relish, and the keener the relish for it the more likely is it to contribute its full measure of strength to the physical organism. It is the same with the mind. Unless there exists a healthy and vigorous appetite for intellectual food we cannot expect the mind to obtain from it the nourishment and strength it is fitted to impart. The mind must be receptive, eager for knowledge, its faculties on the alert; and if this be the case, the question of methods becomes of secondary importance; difficulties will not only cease to embarrass the student's progress — they will contribute to it. When we consider that the love of learning, an interest in the subject-matter of knowledge, is of such absolute importance on the part of the student, it is surprising that more attention has not been directed to the inquiry, how this love, this interest, may be developed and strengthened. Stir the pupil's interest in what he is studying, feed that, as he moves on with his work, and he will more patiently undergo all needful drudgery. Leave him to be listless and indifferent, or to do his work because he must, and he will be all the time in a state of mental rebellion against the tasks that are imposed upon him, and his studies will come to a lame and impotent conclusion. Learning that is secured with alacrity and interest will be retained and all the time increasing. It is a striking fact, that the great mass of children finish their school-life without having acquired in any appreciable degree this thirst for knowledge. How many, on the contrary, become possessed of a positive distaste for it! The process of obtaining it is to them an irk-

some task. In the broad fields of knowledge their blind eyes see nothing which they think worth their while to secure. They enter the shop, the store, or the factory with no serious thought that the school is, after all, only the ante-room of education, the pronaos of the temple of learning, that it is intended to do, and, in the nature of things, can do, not much more than teach them how to learn, how to use their minds and the tools of knowledge, as the basis of future acquisitions. A youth who leaves school with a love for learning, though he at present knows but little, may be trusted to go on with his education.

These considerations apply with special force to the study of Greek and Latin. The very thought that they are dead languages, no longer upon the lips of men in the ordinary concerns of life, creates a presumption in the pupil's mind that they are wanting in present interest and advantage, and causes him to exaggerate their inherent difficulty. As in other branches of study, it is the introduction to the classic languages that occasions the student the most trouble and discouragement. The varying forms of words and their syntactical relations, if they are ever to be learned, must be learned then; and upon the complete mastery of them depend all after success and pleasure. We well remember being obliged to swallow mentally Andrews and Stoddard's Latin Grammar from end to end, — paradigms, rules, exceptions, everything. The amount of drudgery was fairly appalling. Happily, a more rational method now prevails. But after all, there is inevitably a great deal of what has been significantly termed "grammatical grind," a monotonous drill upon the elements, of very little interest in itself, and generally repellent to the student. It is just at this time that the most intelligent and persevering effort is required to impart to him such a constant interest in his studies as shall buoy him up amid their difficulties and help him to encounter these with unflagging energy. The cheerful enthusiasm of the teacher will, no doubt, do much to accomplish this. Enthusiasm is always contagious, and even an inferior method will become singularly effective if carried out with steady earnestness and zeal. If the instructor is himself thoroughly imbued with a literary and

historical spirit, he can do much to enliven the dull routine of daily work by drawing upon the stores of his own mind. There is, however, not much opportunity for this in the recitation-room of the preparatory school. The lesson immediately in hand is quite sufficient to occupy all the time, and whatever is done can, at best, be only incidental and fragmentary. There is need, therefore, of some systematic plan which shall begin with the pupil's first recitation and move along in parallel lines with the work of the class-room. The main purpose of this article is to suggest a method, which, if intelligently and systematically carried out, we feel sure would have a most desirable effect upon classical study, by developing an interest in it from the start and steadily adding to that interest as the pupil proceeds. The idea is not a new one to some of our classical teachers, and has, to some extent, been put to the test of experience; but it is worthy of more general adoption and of being worked out more fully in practice. Not only would the pupil's enjoyment of his studies be greatly enhanced and his success in them aided, but the indirect influence upon his interest in and acquaintance with English literature, with which those of Greek and Latin are so closely interwoven, would be highly salutary.

The plan we have in mind provides for a course of readings in English adapted to the age and capacity of the student, and arranged, so far as may be, in orderly sequence to accompany the studies of the course. In recent years especially, there have been published a large number of books written in a scholarly spirit and in excellent English style, designed to present in attractive form for English readers who have never studied Greek or Latin some of the more interesting and valuable treasures which their literatures contain, and to reproduce in vivid pictures the outlines of Greek and Roman life. Why may not these works be systematically utilized in connection with the preparatory studies in these languages? Would they not have a most admirable influence in awakening, gradually, a literary and historical interest in the classics, which should be the ultimate aim in teaching and studying them? It is with a pang of regret, as we look back to our own early studies in

Greek and Latin, that we remember that there were then no such delightful helps to enliven their dry details and impart to the mind the warmth and glow of a living interest in them. In the case of very many pupils, perhaps of the majority, vacations are spent in a kind of mental stagnation, from which it often requires weeks of the ensuing term to arouse them and bring their minds into full articulation with their work. Without trenching unduly upon the physical activities which especially belong to vacation time, or unduly taxing the mind, some interesting reading might be assigned, in the line of the work of the succeeding term or year, or giving a foretaste of the attractions that will come still later in the course. Thus, two ends would be accomplished. The interest of the student would be excited in what is to follow, and his mind, to some extent, at least, would be kept under continuous training.

In order to give this article a practical point, we add a list of books available for the plan suggested, classified for convenience under the following heads: Stories from Classic Literature and Mythology; Tales, or Historical Romances; Biography and History; Literature and Antiquities; Translations. Very many are appropriately illustrated. Aside from the value of the list to the classical student, it will be found of use to the student of English who wishes to obtain some acquaintance with the masterpieces of classic literature and with Greek and Roman life.

CLASSIFIED LISTS.

STORIES FROM CLASSIC LITERATURE AND MYTHOLOGY.

The Heroes, or Greek Fairy Tales for my Children (Charles Kingsley); The Greek Gulliver, or Stories from Lucian (Church); The Story of the Iliad (Church); The Story of the Odyssey (Church) — all illustrated: Macmillan & Co.

Heroes and Kings, or Stories from the Greek (Church); Stories of the East, from Herodotus (Church); Stories of the Persian War, from Herodotus (Church); Stories from the Greek Tragedians (Church); Stories from Virgil (Church); Stories from Livy (Church). All with illustrations. Tales of Ancient Greece (G. W. Cox); A Story of the Golden Age (J. Baldwin); Lives of the Greek Heroines (Louisa Menzies): Scribner's Sons.

The Story of the Iliad and the Odyssey, with illustrations from Flaxman (C. H. Hanson): T. Nelson & Sons.

Story of the Iliad (E. Brooks); Story of the Odyssey (Same): Penn Publishing Company.

Tales of Euripides (Cooper); Tales from the Odyssey for Boys and Girls; Humors of Greek and Latin Literature (Lawrence): Harper & Brothers.

Pliny for Boys and Girls, or the Natural History of Pliny the Elder (J. S. White); Herodotus for Boys and Girls (White); Olympos, or Tales of the Gods (T. Ely): Putnam's Sons.

Myths of Hellas (C. Witt); The Wanderings of Ulysses (Witt); The Trojan War (Witt); The Retreat of the Ten Thousand (Witt), translated by Frances Young-husband: Longmans, Green & Co.; or The Tales of Troy (Witt), translated by C. De Garmo: Public School Publishing Company, Bloomington, Ill.; Classic Mythology (Witt): Henry Holt & Co.

The Wonder Book (Hawthorne); The Tanglewood Tales (Same): Houghton, Mifflin & Co.

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Last Days of Pompeii (Bulwer-Lytton), expensive edition: Estes & Lauriat; Cheaper: F. A. Stokes & Co. Both illustrated.

Rienzi, the Last of the Roman Tribunes (Bulwer-Lytton), illustrated: Estes & Lauriat.

The Marble Faun (Hawthorne), a cheap edition; or the Holiday edition, 2 vols., with fifty photogravures: Houghton, Mifflin & Co.

Becker's Gallus, or Roman Scenes in the Time of Augustus; and Charicles, or Illustrations of the Private Life of the Ancient Greeks: Longmans, Green & Co.

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Selections from Plutarch's Lives, Cassell's National Library, edited by Henry Morley: Cassell Publishing Company.

Plutarch for Boys and Girls (J. S. White): Putnam's Sons.

Greek History from Themistocles to Alexander, in a series of lives from Plutarch, revised and arranged by A. H. Clough: Longmans, Green & Co.

History Primers, Greece (Fyffe); Rome (Creighton): D. Appleton & Co.

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Story of Greece (Harrison); Story of Rome (Gilman); Story of Phœnicia (Rawlinson); Story of Carthage (Church), in *Stories of the Nations Series*; Pericles, and the Golden Age of Athens (Abbott); Julius Cæsar, and the Organization of the Roman Empire (Fowler), in the *Heroes of the Nations Series*. In preparation in same series, Alexander the Great, and the extension of Greek Rule and Greek Ideas (Wheeler); Cicero, and the Fall of the Roman Republic (Davidson); Hannibal, and the Struggle Between Carthage and Rome (Freeman): Putnam's Sons.

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Epochs of Ancient History, 11 volumes: Troy, its Legends, History and Literature; The Greeks and Persians; The Athenian Empire from the Flight of Xerxes to the Fall of Athens; The Rise of the Macedonian Empire; The Spartan and Theban Supremacies; Early Rome, or Rome to its Capture by the Gauls; Rome and Carthage, the Punic Wars; The Gracchi, Marius and Sulla; The Roman Triumvirates; The Early Roman Empire; The Roman Empire of the Second Century, or the Age of the Antonines: Scribner's Sons.

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Lives of the Greek Statesmen, Series I. and II. (G. W. Cox); Life of Cicero (A. Trollope): Harper & Brothers.

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History of Roman Literature (Crowell & Richardson): Ginn & Co.; Short History of Greek Literature (Gildersleeve): Henry Holt & Co.

Literature Primers: Greek Literature (Jebb); Roman Literature (Wilkins); Classical Geography (Tozer): D. Appleton & Co.

Preparatory Greek Course in English (Wilkinson); Preparatory Latin Course in English (Same): Hunt & Eaton.

Half Hours with Greek and Latin Authors (Jennings and Johnstone): D. Appleton & Co.

Classic Literature (C. A. White): Henry Holt & Co.

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Classics for the Million: an Epitome in English of the Works of the Principal Greek and Latin Authors (H. Grey).

Virgil, Classical Writers Series (Nettleship): D. Appleton & Co.

The Student's Cicero (W. Y. Fausset): Macmillan & Co.

A Companion to the Iliad for English Readers (W. Leaf): Macmillan.

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A Companion to School Classics (Gow): Macmillan & Co.

Business Life in Ancient Rome (Herbermann): Harper & Brothers.

Life in Rome in the Days of Cicero, sketches drawn from his letters (Church): Scribner's Sons.

A Day in Ancient Rome (Shumway): D. C. Heath & Co.

Old Greek Education (Mahaffy): Harper & Brothers.

Social Life in Greece (Mahaffy); Rambles and Studies in Greece (Same): Macmillan & Co.

Greek and Roman Mythology, with special reference to its use in art (Seemann, translated by G. H. Bianchi): Harper & Brothers.

Greece and Rome, their Life and Art, illustrated (J. Von Falke): Henry Holt & Co.
Introductory Studies in Greek Art (Jane E. Harrison): Macmillan & Co.; Manual of Archeology, an introduction to Egyptian, Oriental, Greek, Etruscan, and Roman Art (T. Ely); Baumeister's Denkmäler; Kulturhistorisches Bilder-Atlas, Pt. I., Alterthum (Dr. Theodor Schreiber): B. Westermann & Co.; The Greeks of To-day (C. K. Tuckerman): Putnam's Sons.

A Walk in Hellas (D. J. Snider): Houghton, Mifflin & Co.

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Homer's Iliad. — Prose (Lang, Leaf & Myers); prose (J. Purves), Macmillan & Co.; blank verse (W. C. Bryant), Houghton, Mifflin & Co.; blank verse (Earl of Derby), John Murray, London; hexameter (J. H. Dart), Longmans, Green & Co.; hexameter (Sir J. F. W. Herschel), Macmillan & Co.; verse (Pope), with Flaxman's designs, Scribner's Sons; rhymed verse (G. Chapman), with introduction by Henry Morley, Universal Library No. 17, G. Routledge & Sons; unrhymed metre (F. W. Newman), Walton & Maberly, London; in Spenserian stanza, 1st vol. (P. S. Worsley), 2d vol. (J. Conington): W. Blackwood & Sons.

Homer's Odyssey. — Rhythmic prose (G. H. Palmer), Houghton, Mifflin & Co.; prose (Butcher and Lang), Macmillan & Co.; verse (Wm. Morris), Reeves & Turner, London; verse (Pope), with Flaxman's designs, Scribner's Sons; verse (G. Chapman), Scribner's Sons; blank verse (W. C. Bryant), Houghton, Mifflin & Co.; in Spenserian stanza (P. S. Worsley), 2 vols.: W. Blackwood & Sons.

Plato. — Trial and Death of Socrates, being the Euthyphro, Apology, Crito, and Phædo (F. J. Church), Macmillan & Co.; Socrates, including the Apology, Crito and parts of the Phædo (Ellen F. Mason). Translated by the same: A Day in Athens with Socrates, from the Protagoras and the Republic; Talks with Socrates about Life, from the Gorgias and the Republic; Talks with Athenian Youth, from the Charmides, Lysis, Laches, Euthydemus and Theætetus, Scribner's Sons; Complete Works (Jowett), Macmillan & Co.

Thucydides. — (Jowett), D. Lothrop & Co.

A Guide to Greek Tragedy (L. Campbell): Putnam's Sons; Introduction to Greek Tragedy (A. W. Verrall): Macmillan & Co.

Sophocles. — Text of *Œdipus Tyrannus*, *Œdipus Coloneus*, *Antigone* and *Philoctetes*, with prose translation, four parts (R. C. Jebb), Macmillan & Co.; Dramas in verse (Sir G. Young), G. Bell & Sons; verse (R. Whitelaw), E. P. Dutton & Co.; verse (E. H. Plumptre), G. Routledge & Sons; verse (L. Campbell), W. Blackwood & Sons; *Œdipus Rex*, verse (C. D. H. Morshead), Macmillan & Co.; *Œdipus* (Letters and Literary Remains of E. Fitzgerald, edited by W. Aldis Wright), Macmillan & Co.

Æschylus. — Verse (Plumptre), G. Routledge & Sons; *Agamemnon*, *Choephoroi*, *Eumenides*, verse (Anna Swanwick), Scribner's Sons; *Agamemnon*, verse (works of R. Browning), Houghton, Mifflin & Co.; verse (Dean Milman), John Murray, London; verse (J. Conington); verse (Fitzgerald's Literary Remains), Macmillan & Co.; also Verrall's version, by the same.

Euripides. — Verse (Milman and Wodhull), Universal Library No. 58, G. Routledge & Sons; *Medea*, *Hippolytos* and *Alkestis*, verse (W. C. Lawton), Houghton, Mifflin & Co.; *Medea* (Augusta Webster), Macmillan & Co.; *Ion*, verse (A. W. Verrall), Macmillan & Co.

Theocritus, Bion, and Moschus, prose (A. Lang), Macmillan & Co.; verse (G. Chapman), Scribner's Sons; Theocritus, verse (C. S. Calverley), G. Bell & Sons; Pindar, poetical prose (Myers), Macmillan & Co.; Olympic and Pythian Odes, verse (F. D. Morice), Paul, London.

Virgil. — Complete works in prose (Lonsdale & Lee), Macmillan & Co.; prose (J. Conington), Lee & Shepard; *Aeneid*, blank verse (Wm. Morris), Roberts Bros.; blank verse (C. P. Cranch), Houghton, Mifflin & Co.; in octosyllabic verse (J. Conington), A. C. Armstrong & Son; verse (Dryden), Harper & Brothers.

Livy. — Books 21–24 (Church and Brodribb), Macmillan & Co.

Ovid. — *Metamorphoses*, verse (H. King), W. Blackwood & Sons.

Horace. — Prose (Lonsdale & Lee), Macmillan & Co.; verse (T. Martin), Scribner's Sons; Odes, verse (J. Conington); verse (W. T. Thornton), Macmillan & Co.; verse (F. W. Newman), Trübner & Co.; Odes and Epodes, verse (Bulwer-Lytton), Harper & Brothers; verse (J. B. Hague), Putnam's Sons; Odes, Epodes, Satires, Epistles, translated by most eminent scholars (Ben Jonson, Milton, Dryden, Lytton, Conington, Martin, etc.), F. Warne & Co.

Cicero. — Life and Letters (G. E. Jeans), Macmillan & Co.; Orations (C. D. Yonge), Harper & Brothers; Concerning Friendship (A. P. Peabody), Little, Brown & Co.; On Friendship (with essays of Bacon and Emerson on same): A. Scott & Co., Chicago.

Sallust's *Catiline* and *Jugurtha* (A. W. Pollard), Macmillan & Co.

Tacitus's *Agricola* and *Germany* (Church & Brodribb), Macmillan & Co.

Under the head of "Literature and Antiquities" are included a few brief manuals, mainly for ready reference, *vade mecum*s for the young student; and a few choice translations are given under the final head. To some it may seem a dangerous innovation to place translations in the hands of the student, lest he should come to lean upon them, to the permanent injury of his own scholarship; but, judiciously used, they may be made of very great service in many ways.

Translation from one language into another, if rightly conducted, is a most profitable exercise. It cultivates in a remarkable degree the powers of observation; for, in order to translate well a person must observe with painstaking care the phenomena both of his own language and of that which he is translating, their correspondences and differences of idiom, and the nice shades and distinctions in the meanings of words. Translating cultivates the habit of weighing words, discrimination in the expression of thought, and freedom in the use of one's own language, and hence prepares the mind properly to estimate and appreciate literature in general. If the study of the masterpieces of the Greek and Latin literatures served no other purposes than these, it would be well worth what it costs. But

that the student may attain these ends, the highest standards of translation must be kept constantly before his mind. He must be encouraged to compare his own work from time to time with such printed translations as are not only accurate transcripts of the meaning of their originals but admirable specimens of English style. The student should be instructed and guided in the proper and legitimate use of translations; for it must be conceded that they have their legitimate uses, even for the student of the original languages, and when thus used they will be found greatly to enhance the interest and profit of his studies. Translations have been placed under the ban too indiscriminately, so that they have been resorted to surreptitiously, instead of — as they should be — under the direction of the instructor.

In addition to the daily correction of his work in the recitation-room, the student may be allowed occasionally to use for a few days, in the preparation of his lessons, some standard translation loaned him for a stated time from the school library. He may be required to prepare, occasionally, a written translation, to the best of his own ability, of some noble passage from the author he is reading, and then to compare it closely with the most approved renderings of the passage, themselves classics of their kind, so that he may discover not only where he has failed to grasp the meaning of the original, but how his own translation might be improved in wording and phrasing, and in general arrangement and style. It is also a very instructive and stimulating exercise, after the class has translated the lesson and corrections have been made in detail, for the teacher to elevate and broaden the work by reading to the class, with such critical remarks as may be needful, several of the best printed renderings of the passage, the members of the class following meanwhile the corresponding Greek or Latin text. The student may also be encouraged to read in the best translations classics that are not included in the curriculum, or, by anticipation, those that will be read in the later years of the course. He will thus acquire in advance an interest in the great classic authors. Even for preparatory students there is

much that they can understand and enjoy in Plato and Horace, Thucydides, Livy, and some of the Greek tragedies, and in other works that will readily suggest themselves to the classical teacher.

In a speech made by Mr. Lowell at the opening of the archaeological branch of the Fitz-William Museum, Cambridge, England, May 6, 1884, he used the following striking language: "It seems to me that what one feels always, when brought into contact with any work of Grecian hands or any production of Grecian brains, is its powerful vitality; and by powerful vitality I do not mean simply the life which it has in itself, but I mean the vitality which it communicates." The chief problem, then, of classical instruction, is to bring the mind of the student into such vital relation with the classic languages and the great classic authors that he shall receive in full measure the intellectual life, which they are fitted to impart. That accomplished, Greek and Latin can in no just sense be called dead languages. They will continue to live from generation to generation in the very fibre of the mind and of literature.

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TALKS ON TEACHING LATIN.

IV.

Senior, Tyro, and Miss Meyn.

WHEN they met again it was in the long vacation, late in the afternoon of a day in midsummer. They sat in Senior's rather narrow lawn, in the shadow of the house, and of a good-sized birch-tree which Senior told his guests he had planted some fifteen years before with his own hand.

At first they talked rather indolently of the weather, of some cows that were lying in a field under a small group of maple-trees less than a hundred yards from where they were sitting, and of a pair of nighthawks, the only birds that seemed to give signs of life, uttering their loud "peep," "peep," from several hundred feet up in the air, and occasionally plunging down with a rushing sound near to the earth, and then mounting up again in a slow, ungraceful, aimless sort of flight.

But the conversation soon came to a natural stand-still, for no one felt obliged to talk, if nothing in particular occurred to him. Senior took up a few sheets of manuscript which had been lying on his knees and seemed about to begin reading, but Tyro made a half-deprecatory gesture and Senior paused.

Ty. As you took up the paper, Mr. Senior, a sudden fear came over me that you might intend to examine us on what you read when we met last. That must have been four months ago. You remember we boys never used to remember much that we had learned after a break of three months in the summer, and I am afraid too much of the old failing clings to me still. How well I remember the despairing look that would come over your face for an instant at some wildly absurd answer to the simplest question, in those first days of school. And how then, after a moment's pause, you would say, "Well, I suppose it is hardly fair to expect you to remember anything after a twelve-weeks' vacation, but *te collige*, pull yourself together, Smith, and

try to think." Then Smith, after a rather sickly grin, would suddenly look serious, wrinkle his forehead, and seem to make a desperate effort to collect his thoughts.

I know now, since I have become a teacher, how vexatious it is to discover that you have made no lasting impression, when you thought every word was sinking in, but I see by Miss Meyn's looks that she remembers all that you read.

Miss Meyn. Perhaps not all, Mr. Tyro, but surely most. The main points, after what was read about the importance of the teacher's constantly increasing his own knowledge, were on reading Latin and hearing it read, as an elocutionary exercise and a training of the ear; the place that such exercises should have, the best methods of conducting them, and the best available material in the form of *colloquia* and short anecdotes.

What struck me particularly was the advice that the teacher should lead the way, should be saying "come," rather than "go"; that he should pronounce the words of vocabularies to be learned by the pupil, read aloud the Latin exercises, make his pupils listen with closed books to the reading of reviews, and by his own example illustrate the proper grouping of words, emphasis, and modulations of the voice.

Sen. Very good, Miss Meyn. Tyro was right. I am delighted to have so apt a pupil. My success in teaching boys has been, I am afraid, only indifferent, (here Tyro shook his head and pointed to himself with comical seriousness, as if to indicate that he was a living illustration of the contrary), but I always thought I could make something out of girls.

Of course it should be understood that later the teacher retires gradually into the background, — the teacher reads less, the pupil more and more.

Ty. Would you do me the favor, Mr. Senior, to give us again the last sentence of what you read before, if you remember where we left off?

Sen. (Reads.) "Do not, then, be satisfied with the outcome of the first year's work in Latin, unless you find that the best of a class have clearly acquired some power of understanding easy Latin by the ear alone, and that there has been gained, by

a majority, a fair degree of facility in reading a Latin text, of which the meaning is known, with proper expression."

Miss Meyn. Is that all on the subject of reading Latin?

Ty. I hope not. I want to know what to do about reading in class Latin that is new to the learner.

Sen. I think that happens to be the next topic.

(Reads.) "I have already spoken of *Gradatim* as a book that could be used for reading continuous Latin after a month's study. I strongly advise beginning to read and translate thus early, and from the outset I would use the reading of the Latin text as a means of getting at the sense. Here, again, the teacher must lead the way. While he reads an anecdote through slowly, twice over, the class look at the text, following with the eye and listening with all their ears, not now so much to catch the sounds and imitate the teacher's inflections, as to get what glimmering of the meaning the sound and sight may convey. Then let the pupils read successively, always without interruption. Corrections should be made at the end of each pupil's reading.

"Only after such reading by teacher and scholar should the translation be attempted. You will be surprised to find what a long step has been already taken, how quickly the sense will now be picked up with the help of meanings of the stranger words, which the teacher supplies. In a little time the brighter pupils should be set on to read without the teacher's lead. Though all should be taught to accustom themselves to begin a new piece of Latin by reading it aloud, when circumstances permit, you will generally find it a waste of time in class to call on the slow and dull for this first reading; they will have little sense for grouping words, and their reading is likely to obstruct for others perception of the meaning.

"It is surprising to see how common is the neglect of reading aloud, in the study of Latin and Greek, as a help to discovering the meaning. If one would convince himself of this, let him try the experiment of asking half a dozen classically trained men or women to explain or translate a bit of unfamiliar Latin or Greek, and see if two will begin by reading

the passage aloud. I do not think the same holds true of students of modern languages.

"It hardly need be said that the one vice above all others in reading Latin to be guarded against is pronouncing the several words as if they were independent and mutually repellent units. To illustrate the absurdity of such reading, request the pupil to read a few sentences in English in the same way. The fault arises from lack of a model, where the teacher does not set the example, and from a too early and unintelligent method of reading what has not been looked over in reference to the meaning.

"One thing more. With well-trained advanced pupils, reading the text may, as often as the teacher chooses, be substituted for translation, as a test of the scholar's appreciation of the meaning and spirit of the original. With one class, I lately read a very long oration of Cicero's entirely in this way, without translation. I held it impossible that I should be deceived, by a boy's reading, about his understanding of his author."

Miss Meyn. Should you advise such a course with much younger and less advanced pupils?

Sen. No, Miss Meyn, I should not. A great amount of translation is necessary. At a more advanced stage, reading, in the proper sense of the word, without the intervention of translation, becomes increasingly important, and as much of this reading as possible should be reading aloud.

Ty. I am not at all sure that I could always judge how well a pupil understood what he was reading from his manner of reading the Latin text.

Sen. Then you would only have to ask for a little summary of the meaning, or for a bit of translation. Everything comes by practice.

Miss Meyn. What you have read, Mr. Senior, and what you have added has convinced me of two things: how large a place the reading of Latin should have, and in what a confused, aimless, and fruitless way it is commonly handled in school. I am sure my own practice would have been quite at haphazard without your suggestions of the principles and aims that should

guide one. I see clearly how necessary it is to know what ends to propose to oneself, and then to learn as much as one can from the experience of others how those ends may be best attained.

Ty. After all, the reading of Latin, in the sense in which it has been used, is a comparatively simple matter, though I confess my ideas on the subject were a bit hazy, and I am glad it has been so thoroughly discussed. But I imagine that we young teachers are much more likely to beat the air when we come to the serious business of training in forms and vocabulary. I was myself very fortunate, for I had the best of guidance and drill under Miss S., who, unluckily for the boys of the school where I began Latin, no longer teaches, and so far as I can, I reproduce her methods with my own classes.

Sen. I think, my dear Tyro, you have put your finger on the next weak spot in much of the teaching of Latin. There is certainly a great waste of time on the rudiments. You will often find boys and girls very meagrely equipped in point of vocabulary, after a year's study, or more, and very slow and uncertain in their recognition of forms, to say nothing of the hesitation and difficulty with which they reproduce them, as in translating from English into Latin. This ought not to be, for it is demonstrably capable of correction. The cause lies partly in the use of ill-planned and ill-constructed books. I have seen three classes wrecked in my own school, before I discovered that the cause of the mischief was in the book. I mean no disrespect to college professors, when I say that I do not think they are the best teachers of the rudiments of language and science; nor is it anything derogatory to them to doubt if they are the best-qualified persons to prepare elementary books for use in the school-room. They have certainly made some poor elementary Latin books, from what appear to me erroneous ideas as to the proper objects and ends of preparatory study. Two ideas seem to have presided over the construction of those that I have in mind, and it would be easy to show that the authors had had one eye constantly turned toward Cæsar's Gallic War, and the other fixed immovably on the syntax of the Latin grammars.

Find a short cut or a straight road to Cæsar, and illustrate, in doing so, the greatest possible number of principles of syntax, and you have attained the *sumмум bonum* for a beginner in Latin. This idea of the measureless importance of syntax is as pernicious as it is wide-spread in this country; and I may some time have more to say on that subject. Now syntax, *qua* syntax, ought to play a subordinate role in the beginnings of Latin, and a first book, made, not as an introduction to the Latin language, but to Cæsar, ought, one would think, to be self-condemned, unless Cæsar is the goal and the Gallic War the promised land of Latin literature.

Ty. But how can an elementary Latin book be made without perpetually employing principles of syntax? And are all sorts of constructions to be thrown at the learner without explanations and rules?

Sen. But don't you think the point of view makes a great difference?

Ty. I don't know that I quite understand you.

Sen. I mean, don't you think it makes a great difference whether one's object is to illustrate constructions and enforce grammatical principles, or whether he uses these rather because he must, and for other ends? Whether syntax is mistress or only handmaid?

Ty. Yes, I certainly do.

Sen. Now, my dear Tyro, you spoke a little while ago "of the serious business of training in forms and vocabulary" — I think those were the words you used, — and I thought you had happily indicated the subjects that should, along with pronunciation, engage the attention of the elementary teacher. I think you and Miss Meyn would agree with me that a mastery of inflections is indispensable, as a foundation of solid and rapid progress. When we discussed pronunciation and the reading of Latin, it seemed that it mattered little what book, that is, what rules, were used, or whether any book of rules were used at all; but when we take up the much larger and more important matter of inflections, we cannot say the same. It is, on the contrary, of the greatest importance to choose one's ma-

terials and order one's steps wisely ; for a teacher to extemporize his exercises and determine off-hand their order and arrangement is the sheerest folly. It is to throw to the winds the lessons that reflection and experience can teach. Some book is indispensable, and the question is how to choose. I have already suggested implicitly the two or three most important tests. If a book is made to exemplify and enforce syntax, I say that is the proper function of a work on Latin composition, and will not serve. Does it subordinate syntax and contain copious, varied, and interesting exercises to enable the learner to master the system of Latin inflections, and are the paradigms and exercises wisely grouped and disposed? If so, you have the essentials of a most helpful book.

Miss Meyn. I don't quite see what you mean by "grouping-and disposing the inflections."

Sen. What I have especially in mind, Miss Meyn, stated in a general way, for one cannot go into all details, is that paradigms should not be crowded so as to confuse the learner ; that there should be an orderly progression ; that abundant and varied exercises should succeed each model paradigm ; that adjectives and nouns should be treated together, as the feminine of adjectives of three endings with nouns of the first declension, the masculine and neuter with those of the second, and so on ; that the paradigm of a verb should be given, but not learned, in a block, the passive side by side with the active, and the exercises to correspond ; that forms of the subjunctive and its use should be deferred and treated separately, and the same of deponent verbs and participles.

Miss Meyn. Was not the practice formerly, Mr. Senior, to learn inflections from the grammar, and then to begin to read short sentences, and from those to go on to continuous Latin? What do you think is the objection to that method?

Sen. There is more than one objection to that method, but the most important one is that it was based upon an assumption that both reason and experience condemn. It took no note of the need of double translation to fix forms in the memory. I venture to say that no one ever did or could get a practical mas-

tery of the system of Latin inflections simply by learning and repeating paradigms. I insist that there must be a great deal of translation of short sentences into English and again into Latin. But I ought to add that so much of this is found actually indispensable for the average boy or girl that there is great danger that attention will flag and weariness, discouragement, and disgust follow, unless the exercises are varied and interesting, as well as copious. Now many books are spoiled by just this defect of interest. Somebody has said too sweepingly, that all first Latin books are wooden to the last degree, —or something to that effect. D'Arcy Thompson's "Ladder to Latin," for example, is a notable exception, and I believe the authors of "The Beginner's Latin Book" owe something to him, but they have perhaps not equalled him in this particular.

Miss Meyn. Would you have the pupil always give the English equivalent of a form, in reciting paradigms?

Sen. Not always; but I should certainly not trust largely, as I am afraid is very often done, to the repetition of paradigms without the corresponding English. I venture even to go further, and to say that there is far less value in the exercise, *even when managed in the best way*, than teachers think, and the reason is not far to seek.

In reading Latin one does not meet a regular sequence of forms from the same stem, but isolated forms.

Ty. I remember that the teacher of whom I spoke a little while ago made us observe and compare forms in our Latin-English exercises a great deal, and whatever forms we compared we pronounced. It seems to me that that was, in fact, the secret of the readiness and accuracy that we got in forms of the verb.

Miss Meyn. What you said, Mr. Senior, about repeating paradigms, brings up this question to my mind: whether, in the case of verbs, it is not an objection that only one third of the time and practice goes to the two forms that are ten, or perhaps a hundred,* times more frequently met with in reading, — I mean on the third person singular and plural.

Ty. Good, Miss Meyn! I don't see any answer to that.

And that suggests another remark: exercises for translation, whether into English or out of English, should have little to do with forms of the first and second person. This is something that authors of first Latin books have not attended to enough, though I believe the authors of "Easy Latin Lessons" have not been great sinners on this point. Still another thing: the practice of giving synopses of verb forms by tenses or modes, or in whatever way, by first persons, as *rego*, *regebam*, *regam*, etc., is absurd. Your remark suggests that the third person should be substituted. I recall now that Miss S., my beloved teacher, used that method. Then, too, in the declension of adjectives, we were never permitted to decline, as seems to be the usual way, in all genders at once; in fact, we seldom declined an adjective without coupling a noun with it.

Miss Meyn. "In all genders at once"? How do you mean?

Ty. I meant, to take *bonus* for an example, we were not taught to inflect *bonus*, *bona*, *bonum*, horizontally, if I may say so.

Miss Meyn. Why, what harm in that? I was taught so; and the one who could go through it most rapidly was reckoned the best scholar.

Sen. If Tyro will let me answer, I should say that the objection is twofold. The principle is the same that we have already found should govern our practice, but there is no harm in stating it again. We do not find in reading, we do not want in speaking or writing, we do not hear in listening, a regular succession of forms from the same theme, root, or stem. What does occur is the combination of adjective and noun; hence declining these together assists directly in reading, writing, speaking, hearing.

But there is another more important objection; associations and habits of thought are readily formed in the mind of the young; mental grooves, so to speak, are easily made.

Now if a boy is trained to rapid "horizontal" inflection, his thought will involuntarily run in that groove in the effort to recognize or reproduce a form; he will not think directly the form, but will go beating about the bush.

We come back, then, to what has been in substance said already, that the most effective drill, after all, is in the rapid translation — double translation — of isolated forms and groups of words. If this is true, is not the emphasis in practice very commonly put in the wrong place? I wonder what proportion this sort of practice bears to those ways that we have considered to be less reasonable and fruitful.

Let no one say these are trivialities. The difference between a well-considered method, based on sound principles, and a haphazard procedure, with whatever diligence and enthusiasm attended, may be very great both in intellectual training and in practical knowledge. The simple truth is that in but few schools is there attained in the first year of the Latin course such a familiarity with inflections as to enable the learner to recognize instantly in his reading and properly render words whose root or stem-meaning is known to him; and if this knowledge is not acquired at first, it seldom is later. Accordingly nothing is commoner than to hear disgraceful blundering on tenses, modes, and even voices, by students in Vergil and Cicero. It may be that teachers do not fully appreciate the importance of this kind of knowledge; it may be from underestimating the amount of practice necessary; it may be from a faulty method of teaching; or it may be from all these causes combined.

No one seemed to care to follow up the subject any further. The sun was getting near the horizon, and it had grown warmer as evening approached. Tyro declared that he had fatigued himself with the unusual efforts he had made to absorb and remember all the good things that had been said, but wanted more, — another time, — and proposed that they form a club with two or three more, to meet once a month to discuss other topics. Senior assented, and Miss Meyn, when appealed to, said she should be delighted to come, if they would take another lady member; so they separated, but without any definite arrangement for the next meeting.

WM. C. COLLAR.

ROXBURY LATIN SCHOOL.

EDITORIAL.

THE announcement of the constitution of a Schools Examination Board by Harvard University is a welcome surprise to secondary teachers in New England. It is welcome because the privilege of obtaining the inspection and consequent advice of experts is now within easy reach of the schools, as previously it has not been. Certain academies have voluntarily secured this form of help for several years, but the high schools have had their inspection done mainly by other than experts in secondary work. It is a surprise, because Harvard has hitherto shown no favor toward the "certificate system," with which inspection by college officials has usually been joined in this country. The details of the plan of operation of the Board are elsewhere given in this number. They are eminently judicious, and apparently are so guarded that no evil effects can come from the examinations when made. Judged from without, the limitation of applications to a date not later than Nov. 1 seems unnecessary, but there may be sufficient reasons for fixing this early date. The matter of expense, also, is a serious consideration. Well-endowed academies and the leading private schools will easily find the funds necessary to cover the expense of an examination. But the high schools must look for their money to appropriations by the School Committees. It is a question whether these bodies will be ready at first to supply the necessary means. Local pride, however, will settle all matters of this kind, after the advantages of inspection by such a Board have become evident in the East, as they already have in the West. The personnel of the Board shows a most happy exercise of the privilege of selection. The members will all be personally welcomed in the school-rooms of the land, whether they came privately or in their official capacity.

An interesting question is raised by the appointment of the Board: Does it foreshadow the ultimate adoption of the "cer-

tificate system" by the oldest University of America? Viewed in the light of American precedents alone, the end suggested might seem the natural outcome of this movement. Further, more, it is known that the Board was constituted very soon after the return of the President of the University from an extended journey the main object of which is said to have been the observation of the working of the certificate system in the Central and Western States. But there is another possibility which, in view of the well-known opposition to the use of certificates hitherto manifested at Harvard, becomes the probability. This movement may have its motive in the desire to do for American secondary schools what Oxford and Cambridge have for many years been doing in behalf of English secondary schools by methods not unlike those now proposed, but without any apparent thought of granting admission to the higher institutions by certificate. Whatever may be the motive in its initiation, the work of the Board seems likely to bring the college and its contributory schools at once into a most helpful attitude of co-operation. If it shall subsequently be demonstrated, as we believe it will, that admission by certificate is safe for the college, safe for the schools, and best for the pupils, we may be sure that Harvard will ultimately adopt this plan in the case of the schools on which this Board shall set the seal of its approbation.

In *Public Opinion* for July 16, 1892, under the title of "Educational Progress," appears a short article credited to the *Christian Union*. It is an enthusiastic summary of the advance made in higher education within the last twenty years. In the creation of four great universities, not to mention several smaller institutions, in the wonderful expansion of higher educational opportunities for women, and in the recent remarkable increase of college attendance (which, by the way, no one seems able adequately to explain), the writer sees indications of "a movement so general, and of late so accelerated, that it does not seem too much to hope for such a national inspiration and training through education as came to Germany during the

second and third decades of the century." He considers the situation a happy one in that more exacting requirements and larger opportunities are matched by more young men and women eager to meet the one and use the other. Finally he reaches this worthy conclusion: "There have been princely benefactions to American colleges, but there must be more benefactors. Every man of fortune ought gladly to pay his tribute to education. He is only discharging the debt which every man, educated or uneducated, owes to these fountains of intellectual and spiritual influence and life."

To this praise of the higher educational forces of America from an external source the great army of workers within all the departments of educational service will yield a cordial assent, as they will also to the writer's appreciative reference to "the spread of the kindergarten and the enthusiasm with which the spiritual idea of education behind it is received." But it is unfortunate that the writer's lack of familiarity with the actual work of the schools has led him to introduce a remark which is not supported by evidence. "Education," he says, "is weakest in the secondary schools and strongest in the universities and in the primary schools." This he supplements by a more specific statement: "That which many of our intermediate schools—the public schools especially—lack in freshness of spirit, vitality of interest, and variety of method, the kindergartens and colleges and universities are developing in a remarkable degree."

The writer's use of the terms "secondary" and "intermediate" is not altogether clear. If he means by the term "secondary" all schools between the primary schools (the first four years of school life) and the colleges, his charge of weakness is probably an echo of the current criticism on grammar-school courses and methods. If, however, he uses the term "secondary" in the sense in which educational writers ordinarily employ it, as applying to the schools between the grammar schools and the colleges, his statement is not in accordance with facts. The academies, preparatory schools, and public high schools are not the weakest part of the educational line of

advance. An inspection of a few representative secondary schools would show, even in the public schools, a "freshness of spirit" and "vitality of interest" which would delight the observer. And as to "variety of method," that may or may not be a sign of strength; it depends upon the method. The observer would certainly be gratified to note how much advance has been made in secondary methods within two decades. He would find English taught more generally and more intelligently; he would see geometry really used to secure deductive reasoning; he would look upon laboratory work in physics, chemistry, botany, zoology, and other sciences, which was rare in colleges less than twenty years ago; history he would rejoice to see used as a genuine means of culture; and he might find boys and girls reading at sight passages in Latin and Greek which would have puzzled him when he left the college doors. And in the attitude of pupils and teachers to each other and to their common work, he would find too much "freshness of spirit" and "vitality of interest" to warrant the parading of any alleged weakness of secondary schools as a foil for praise, even well-merited praise, of other departments.

How many teachers there are who have the mistaken notion that the preservation of their dignity is the most essential thing in the school-room; that discipline would fail if they should be natural; that they would lose the respect of their pupils if they should acknowledge their mistakes and apologize for lapses of memory or of temper! Yet such teachers, wherever found, are missing a great opportunity. We commend to them certain words from one of Archbishop Tillotson's sermons recently brought to our notice by a friend. Speaking of sincerity as "an excellent instrument for the speedy despatch of business," he says, "And I have often thought that God hath, in his great wisdom, hid from men of false and dishonest minds the wonderful advantages of truth and integrity to the prosperity even of our unholy affairs. . . . Were but this sort of men wise and clear-sighted enough to discern this, they would be honest out of very knavery."

NEWS FROM ABROAD.

GERMANY.

GRADUATION AT THE GYMNASIUM—MOTIVES FOR STUDY.

A FORTNIGHT after the examination of maturity the exercises of graduation take place. All the pupils, with the whole staff of teachers and a great many guests, friends of the school, parents and relatives of the pupils, assemble in the great hall, the *aula* of the gymnasium. The head master first mounts the platform. After an earnest address, he hands the diplomas of graduation to those who are about to leave school, with a few words of praise or encouragement for each, and a sentence which may serve as a rule for guidance in life. Then the four best graduates deliver speeches in German, Latin, Greek, and French, and another gives the message of farewell with thanks in the name of his comrades to the teachers and the pupils who remain behind. The exercise closes with a poetical response by one of these pupils.

Though all this seems very simple, to the actors, nevertheless, it is extremely touching; especially when the "*vale et floreas*" is heard, and the young men shake hands for the last time, tears are glittering in many an eye, in spite of the joy that fills the heart at the idea of leaving the long-borne school yoke. For though unbounded liberty awaits him at the university, the German loves his school and always preserves a tender remembrance of the days when he was a school-boy. Amid the wild pleasures of university life he often thinks of that time as of an *insula* where the waves of the ocean of life surrounded him but could not reach him; a time when parents and teachers combined their efforts to preserve him from all bodily and spiritual harm. If I compare the applause of an English or French prize day with the silence that prevails at a German graduation, the contrast is striking. There a prize and long applause often follow very few pains and meagre results; here there is only a word of praise for attainments that may boldly challenge comparison with the best acquired in French and English schools. This leads me to the second point of my letter, — the motives for study appealed to in our schools.

The chief end aimed at in our education is, besides the getting of a profound knowledge, to awake in the boys the feeling of duty. In acquiring knowledge, in being obedient to their teachers, in behaving well, the pupils only do their duty. This does not deserve praise,

except in cases of particular efforts, but failure in either respect deserves punishment. So the feeling of duty, as a thing superior to all else, is strengthened in the boys. "You must do your duty," the pupils are taught, "because it would be a shame not to do it, and not for the sake of gaining any prizes or other advantages." Such principles are absolutely necessary in a country where a whole army of functionaries exists who work from morning to night for wages that scarcely enable them to provide for the common necessities of life. In England and France boys are taught to do their duty because they will get some advantage by doing it. "You cannot demand," a prominent English teacher once said to me, when I made some objection to the rather profuse manner of distributing prizes in English schools, "that the boys do their duty for nothing." With us this is justly deemed a mercantile system, good enough to produce excellent merchants, but unlikely to create patriots and functionaries such as we want here. No expectation of gain should be aroused in the boys, if they do what they ought to do. If an English boy is lazy, if he does not go to school, the worst thing that can happen to him is that he gets no prize. With us such a boy is severely punished for so neglecting his duty. Only when he does more than is demanded of him, or does it particularly well, is he praised, or even rewarded by a good book; the latter rarely happens oftener than once a year, and then only to one or two pupils in the class.

Even if you set aside the moral influence of prize-giving, the English and French systems have led to abuses that render the prize days ridiculous to strangers. Since the number of prizes distributed is reported in the newspapers, and the goodness of a school is judged by the number of prizes there obtained, the head master orders things to be rewarded that in other countries are treated as matters of course, as, for instance, regular attendance on lessons and good behavior at school. They even bestow prizes for literary attainments that deserve hardly any praise. A most striking example of this came under the observation of a friend of mine in France. While at Benseval, near Trouville, in Normandy, he "assisted" at a prize-day. When all the pupils had received their prizes, a little girl who did not yet go to school, and could not mount the steps of the tribune by herself, was displayed to the eyes of the audience and rewarded with some trifle. To the question of my astonished friend, what this meant, the head master answered: "*Prix d'encouragement, monsieur, prix d'encouragement!*"

What means we employ to bring our boys forward I will report in my next letter.

PROF. OSCAR THIERGEN,
Royal Corps of Cadets, Dresden.

ENGLAND.

THE OPEN-AIR GREEK THEATRE.

THE cultivation of Greek literature in the original language is dying out, as we all know; it must necessarily do so; the true interests of education demand, as has been explained, that Greek should give place to shorthand and Hindustani. However, it is dying hard, or at least it seemed so to certain passengers at Paddington who could scarcely find room in the crowded special train which was to take them the other side of Reading to Bradfield College, to the third performance of the *Agamemnon*. Some hundreds of Londoners going fifty miles on a Saturday afternoon for the sake of Æschylus made a sight to do one's heart good. Yet it is true that there was an admixture of non-Hellenistic motive. Together with the severer persons who carried texts and various "cribs" — from Bohn to Browning, — were found happy little groups of "Old Boys," with sisters and other friends, on pleasure bent, discussing in the train such things as the real dimensions of the Royal Standard on Windsor Castle, and whether the opening *ἐνφρεσις* of the *choragus* meant, "I am glad to see you."

The fact is that all the favorite schools and all that aspire to become such find it necessary to propitiate "Society"; and "Society" is not satisfied with Speech Days, which are too prosy, nor with "Old Boys' " dinners, which are for one sex only and reek with tobacco. Hence our schools, according to their resources, give some kind of entertainment, whether *conversazione* garden party, sports, cricket match, concert, or theatricals, whether a summer or a winter gathering. Among such events are, of course, the Westminster Plays and the Boats at Eton. Thus friends of the school are assembled, masters meet parents, sympathy in their common object is created, views apparently in conflict are reconciled, and things go more easily the rest of the year in consequence. Now, among such school entertainments, plays are of long standing and are more generally liked than exhibitions purely muscular. The majority of the usual audience would probably prefer English drama; but many schoolmasters dislike it. They urge, with some reason, that rehearsals consume much time, if anything is to be offered which is not a mere appeal to the indulgence of an audience accustomed to professional acting, and that the literary gain from modern comedy is less than nothing; also that the best boys are not usually the best actors; that the actors get their heads turned and take to the stage for their living, to the grief and wrath of their parents, who had other views, and who, in spite of Mr. Irving's apotheosis at Dublin, have a feeling, half Roman, half Puri-

tan, that the profession is, as a vice-chancellor of Oxford put it, after all, *ars ludicra*: they agree in the main with Mr. Bissell's *Obiter Dicta*. Moreover, theatricals are an evening amusement, — a country school loses the benefit of a pleasant exterior and crams its friends, it may be, into a dim, echoing hall, where some are chilled and the rest stifled. Add the difficulty of being, like a recent impersonation of Hamlet, "amusing without being vulgar," and it is clear that English plays have their disadvantages. It is equally clear that these disadvantages disappear in the case of a Greek play acted in an open-air theatre. The wonder is, now that we see one, that Greek theatres are not found everywhere in Europe and America.

From the railway station the Londoner is driven along country lanes to handsome red-tiled buildings enclosing acres of green playing fields. There is a substantial welcome from the warden and his staff, and we have time and daylight for making the round of the school before the trumpet summons us to the theatre. A disused chalk-pit carefully shaped and cemented makes a perfect auditorium. There is no crowding; every one can see and hear perfectly; there is no heat, no exhausted air, and no headache, but a sense of healthful, literary enjoyment. In the pauses of the play we hear not the banging of doors and the clatter of streets, but birds singing in the chestnuts which shade us. The theatre is not, of course, Athenian in size; there are no buskins or masks, and the stage, with its five steps to the orchestra, is arranged in a way which some recent excavators might question; but, so far as the conditions allow, all is Greek, and the whole effect is to help the imagination as it has never been helped before, even by more ambitious acting which had not the same advantages of environment. Criticisms of the acting have appeared in several journals, and to add to their number would be outside my purpose, which is merely to call attention to an English effort in education. I need only say that the interest of the audience was bestowed without flagging from the first line to the last.

The next fortnight sees the Speech Days of almost all the "secondary" schools in England, and, from the addresses of many head masters and many chairmen of governing bodies, we may expect to gather the chief results of the past educational year, — a year not indeed memorable for new departures, nor, so far as we are concerned, for helpful legislation, — our politicians have been otherwise engaged, — but yet one which has seen a considerable amount of interesting suggestion and development. In my next letter I hope to notice some of the opinions pronounced *ex cathedra*.

T. W. HADDON.

CITY OF LONDON SCHOOL, JULY 20, 1892.

HOME NEWS.

THE SCHOOLS EXAMINATION BOARD OF HARVARD UNIVERSITY.

UNDER date of June 22, 1892, the constitution of this Board was announced with a membership consisting of the president, four professors, and two principals of schools or academies. It will have a secretary, who may or may not be a member of the Board. The members of the Board at present are: Pres. Eliot; Prof. Charles F. Dunbar, Dean of the Faculty of Arts and Sciences; Prof. Ephraim Emerton; Mr. William C. Collar, Head Master of the Roxbury Latin School; Mr. Frank A. Hill, Principal of the Cambridge High School, and Asst. Prof. Paul H. Hanus.

Under the direction of this Board, the regular work of instruction in any school — public, endowed, or private — of a grade to prepare boys for Harvard College or the Lawrence Scientific School will, on request, be thoroughly examined. An examination may cover the entire work of a school, or only the work in a department or departments to be specified by the person or persons inviting the examination. Examinations may be invited by the Master of a public school with the approval of the Superintendent, if there be any; by the Master or Principal of an endowed school or academy with the approval of some appropriate officer of the Board of Trustees; and by the Master of a private school. The examinations will be directed to ascertaining the organization of the school, its methods of instruction, discipline, and physical training, the proportionate attention given to each study, the quality and range of the books used, and the quality and quantity of the apparatus. The examinations may or may not cover methods of discipline outside of the school-rooms, and shall not cover religious instruction, sanitary condition, or arrangements for boarding and lodging pupils. A written report will be made by the Board to the Master or Principal of the school examined. This report shall not be published by either party. It may be used confidentially in the University Committees on Admission, in the Board of Trustees of an endowed school or academy, and by the Superintendent of Schools, if there be any, in the case of a public school. No report or record shall be made concerning the merits or demerits of individual teachers, or the attainments of individual pupils.

To make a complete examination of a school which has a comprehensive programme of studies, six examiners will ordinarily be required, one for each of the following subjects: Classics, Mathematics, Natural Science, History, English, other modern languages; and if the number of pupils be large, assistants for the principal examiners may also be required. The examinations in these different departments need not be simultaneous, and in most cases would not be. For any particular school the Board, if requested, will state beforehand how many examiners and assistants will be needed for either a complete or a partial examination. The examinations will be held at the convenience of the Board at some time between Nov. 1 and June 1. Applications for such examinations shall be made not later than Nov. 1. The Board shall be at liberty to decline an invitation to examine or re-examine a school. The school examined shall pay the travelling expenses of the examiners and of their assistants if there be any, \$10 for every period of twenty-four hours or fraction thereof that each examiner is absent from the University, and \$5 for every period of twenty-four hours or fraction thereof that each assistant is absent from the University. When thoroughly informed of the programme of studies in the school inviting examination, of its number of pupils, of the scope of the examination desired, and of its hour-distance from Boston, the Board will furnish beforehand an approximate estimate of the cost of the examination over and above travelling expenses.

A list of the schools examined, with the dates of the examinations and the departments in which they were examined, will be printed in each successive annual Catalogue, accompanied by a statement that this publication conveys no information in respect to the results of the examination. All communications on this subject should be addressed to "The Secretary of Harvard University, Cambridge, Mass."

SECONDARY AND HIGHER EDUCATION AT THE JULY CONVENTIONS.

I.—THE AMERICAN INSTITUTE OF INSTRUCTION.

SOMETHING over six hundred New England teachers assembled at Narragansett Pier, R. I., in the week beginning July 5. Professor S. N. Patten, of the University of Pennsylvania, gave the opening address, on the "Economic Basis of Education." It was a piece of keen, analytic thinking, emphasizing the necessity of self-knowledge and a knowledge of the social relations of the race in order to under-

stand the foundations of social and economic science. One whole day was given to the vexed question of grammar-school education. Prof. Wm. M. Davis, of Harvard, taking the State of Rhode Island as a basis, gave an admirable exposition of the way to teach geography through the physical features of a region. Mr. Geo. I. Aldrich, of Newton, did a similar work for the subject of arithmetic. Interesting discussions followed. In the evening, Pres. E. H. Capen made an able plea for "Grammar-School Reforms," advocating a reduction in time, the substitution of some algebra, geometry, physics, natural history, and foreign languages, ancient and modern, in place of part of the arithmetic and grammar, the introduction of manual and physical training, and also an improvement in the teaching force. Mr. James A. Page, of Boston, in a most happy manner presented the conservative view of the same subject. To him, the pressing problems were, the adjustment of the kindergarten and manual training to the grammar school, the economy of time, physical exercise, and supervision. Such questions as those of introducing foreign languages may well be left to future solution. Both speakers favored a more flexible arrangement of gradation. The next day was devoted to English. Miss Ellen Hyde, of Framingham, urged more careful and systematic work in primary schools, especially in gaining a vocabulary and in the proper use and arrangement of words, explaining how this can be done. She also pleaded for genuine literature in the lowest grades. Mr. Samuel Thurber, of Boston, claimed that the children in our better school systems are fully up to the mark in English. If college men think otherwise, it is because of the insufficient tests they give at entrance examinations. English composition should be taught in secondary schools not by a special teacher but by all teachers, since English expression is the universal tool. The English teacher should deal scientifically with the language, and give a survey of the later literature as a whole, not in the unrelated fragments which the wholly unphilosophical college examiners require. He should also give pupils the habit of literary research. Both these addresses elicited lively discussion. In the evening, Prof. L. Sears, of Brown University, spoke on "English Composition in College." The mechanics of composition — word-study and sentence construction — should be mastered before college days. Invention will be the chief thing in college, — the finding of what to say on the thing in hand. The student should learn to investigate and digest. A mind full of its subject will contrive to impress itself on other minds. Prof. Charles F. Johnson, of Trinity College, spoke on the "Development of Literary Taste in College." Sound literary taste is trained judgment in literary questions. It is difficult to attain from its complexity. Lectures and class reading with run-

ning commentary afford the most practical method of securing it. The class should be small, — not more than twelve, — to secure close personal relations, and the editing of pupils' notes and conversational discussion are important parts of the teacher's duty. Enthusiasm is indispensable. On the last day, Mr. Henry Sabin, of Iowa, spoke of the country schools, and Rev. T. C. Pease, of Malden, on the "History of the Alphabet." Mr. C. H. Douglas, of Keene, N. H., also gave one of the most thoughtful papers of the meeting on the relative value of breadth of knowledge and depth of knowledge, drawing illustrations from the whole range of education. His conclusion was that though each has a special value in the attainment of certain ends, they cannot be separated, for the full potency and effect of each is requisite for symmetry.

Two Round Table Conferences were held, each extending over two afternoons, and in each case the hotel parlors were more than filled. Dr. Robert P. Keep, of the Norwich Free Academy, presided at the Conference on the Relations of the Colleges and Secondary Schools. The main topic taken up at the first session was the operation of the certificate system. Some ten members of the Institute participated in the discussion, which was animated and instructive. The steady extension of the certificate system was clearly brought out, and the reasons for the burdensome details sometimes called for were clearly set forth. The sense of the meeting was, on the whole, favorable to the operation and extension of the system of admission by certificate. The main topic of the second session of the Conference was the Teaching of Pedagogy. It was pointed out that the existing normal schools cannot be expected to attract the college graduate, who must, therefore, if he receive any training for teaching, obtain it from a college. The pedagogical courses, more or less extended, of Harvard, Yale, Wellesley, and of other colleges, were therefore noted with interest, and the hope was expressed that the recognition by the colleges of the importance of teaching to students the art of pedagogy would bear fruit also in a more general practice, by college professors, of the principles of that art. The need in New England of a central school of higher pedagogy designed especially for graduates of colleges was considered, and the efforts which have been made to establish such a State school in Massachusetts were recalled.

The Conference on Promotions had for its chairman Mr. H. S. Tarbell, superintendent of the Providence public schools. Many methods of promotion were discussed, but the plan which met almost universal approval was promotion upon the estimate of the teacher and supervisor, supplemented by several examinations, both oral and written, at different times. The keeping of daily records found little

favor. It was held that both the work that has been done and that which is to be done should be considered in promotions. Unfit pupils should not be advanced, except that pupils who have been twice over the work of a grade should be promoted, provided attendance and efforts have been satisfactory. No pupil should be deprived of promotion as a penalty for misconduct or irregular attendance. In high-school grades pupils who fail on a single subject should, as a rule, be advanced, and allowed to make up the deficiency. The promotion of capable pupils at other than the regular times was earnestly recommended. On such occasions there should be a conference by the teacher, principal, and parent; and age, physical condition, mental ability, and home surroundings should all be considered. There was abundant evidence throughout the sessions that the subject of promotion is receiving widespread and serious attention.

This meeting of the American Institute, though smaller than some others, was characterized by a unity of plan and intensity of interest which added much to its effect upon the members present.

II. THE NATIONAL EDUCATIONAL ASSOCIATION.

While the numbers at Saratoga were far less than the thousands heralded in advance, the thirty-five hundred who registered as members and the large number of others who failed of this professional duty made up audiences that were grand for speakers to face. President Harrison's well-chosen and dignified address made an excellent impression at the outset, and the general sessions as a whole maintained the dignity of the association.

For any adequate report of the week's exercises, so numerous as they were, one must wait for the publication of the volume of proceedings. No one person could attend all the sessions, and human nature would have succumbed if one had attempted the task. The local papers, moreover, gave but partial reports.

In the National Council of Education much prominence was given to the subject of "Pedagogical Work in the Universities." President DeGarmo, of Swarthmore, in a strong paper urged three points: first, that departments of pedagogy should raise their work to the dignity of real university study; second, that the education department should consist of a faculty of five or six men who should control the instruction in all educational and closely allied subjects; and third, that normal school graduates should be freely admitted to the undergraduate course, and given full credit for work done. An interesting discussion followed, in which the positions taken in the address were generally approved. A marked step in advance was taken concern-

ing the relations of colleges and secondary schools. Prof. Nicholas Murray Butler, with appropriate explanations, offered the following recommendation, which was seconded by President Eliot and unanimously adopted :—

“In the opinion of the Conference of the Representatives of Colleges and Secondary Schools, called by authority of the Council, certain conferences by departments of instruction of teachers in colleges and secondary schools are desirable. We therefore recommend to the Council that the following persons, namely, President Charles W. Eliot, of Harvard University; Dr. W. T. Harris, National Commissioner of Education; President James B. Angell, of the University of Michigan; John Tetlow, master of the Girls' High School, Boston; President James M. Taylor, of Vassar College; O. D. Robinson, president of the Albany, N. Y., High School; President James H. Baker, of the University of Colorado; President Jesse, of the University of Missouri; James C. MacKenzie, head master of the Lawrenceville, N. J., School, and Prof. Henry C. King, of Oberlin College, be designated as an Executive Committee, with full power to call and arrange for such conferences during the academic year 1892-93; that the results of the conferences are to be reported to said Executive Committee for such action as they may deem appropriate, and the Executive Committee to report fully to the Council.”

The Council further recommended that the National Educational Association appropriate \$2,500 for this purpose.

Provost Pepper, of the University of Pennsylvania, before a large audience of the main association, discussed the relation of undergraduate and post-graduate curricula. The happiest solution of the difficulty would be, he thought, an undergraduate curriculum, ending with the nineteenth or twentieth year, and providing a good basis for post-graduate studies in the various university schools. To secure this he depended on a proper co-ordination with the secondary schools. Pending the full study of the larger questions, various expedients must be tried: as the Pennsylvania plan of offering in the Junior and Senior years electives that permit students to enter the second year of the law or medical school; or the Columbia plan of allowing seniors in the B. A. course to enroll themselves also in the professional schools, by the combined courses saving one year. Following him, President Eliot made an address on “Desirable and Undesirable Uniformity in Schools,” which we hope in a later issue to offer to our readers in full. Other notable addresses were made, — one by Chancellor Canfield, of Nebraska, on “Ethical Culture in the College and University,” another, on “Literature for Teachers,” by Hamilton W. Mabie, which was as uplifting and inspiring in spirit as it was charming in style, and still another, by President Hyde, of

Bowdoin, on the "Organization of American Education." An interesting episode of the latter was his sharp distinction drawn between the college and the university. He claimed that university specialization should rest on college breadth and symmetry, and university freedom should be fortified by previous college discipline.

The department meetings varied greatly in attendance and apparently in interest. That on Secondary Education attracted a large audience both afternoons, notwithstanding some failures to appear on the part of speakers announced and a programme that was not of the strongest. There was a host of young teachers present eager to learn. That on "Higher Education" cannot be deemed a success. Only a few people met, if the newspaper report be true, and the discussions were altogether informal. Of the Round Table Conferences four were without the leaders announced. Two are spoken of as especially successful, that on "Cramming," led by Prof. W. Clark Murray, of Montreal, and that on "The Development of Ideas and Feelings of Sex in Children," over which Prof. Earl Barnes, of California, presided. Most of the others were attended by small parties of specialists, as the plan of the conferences contemplated.

A prominent subject of conversation and report was the series of World's Congresses, which, under the charge of a committee appointed in 1891, will probably take the place of a regular meeting of the Association in 1893. There was also much inquiry and consultation about the Educational Exhibit at the Columbian Exposition.

The social features of the gathering were even more pleasant than usual by reason of the smaller number and more thoroughly educational cast of the throngs. The leaders of educational thought were easily to be found; it was mainly the excursionists who were absent.

LETTERS TO THE EDITOR.

A SUGGESTION CONCERNING DEGREES.

EDITOR OF SCHOOL AND COLLEGE:

In view of the indefiniteness of the "significance of the B. A. degree" (as shown by Prof. Garnett's important paper in the April number of SCHOOL AND COLLEGE), and indeed, of the other degrees co-ordinate with it, as well, why would it not be better to employ *not*, as Prof. Garnett proposes, the "four degrees B. A., B. Ph., B. Let., and B. Sc.," but merely the "one general degree for all classes of students," *together with* a modifying designation wherever in any particular instance it seemed desirable to specify the more determinate meaning of the B. A. Suppose the various branches of knowledge be grouped as well as may be according to a certain philosophical division that has existed since reflection upon knowledge as such began in the history of the world, viz., the division into knowledge of nature, knowledge of man, knowledge of things metaphysical or metaphenomenal, the first being comprised in the "sciences" so called, the second in the "humanities," the last in "metaphysics" in the widest sense of the term. Then to define the significance of the B. A. in any given case it would simply be necessary to affix to the *B. A.*, say the abbreviation *Sci.*, *Hum.*, or *Met.*, as the case might require. As to the grouping of the branches of knowledge, it would *probably* be *somewhat* as follows: "Sciences,"—the natural sciences, including mathematics as their formal basis; "Humanities,"—the languages and literatures, general philology, history, psychology, ethics, economics, politics, etc., in a pragmatic or empirical sense; "Metaphysics,"—logic, theory of knowledge, metaphysics (in the narrower sense), and all other branches so far as treated primarily by the metaphysical method or on the metaphysical standpoint.

What is here said with reference to the degree of B. A. would apply to that of M. A., or even to that of Ph. D.

B. C. BURT.

ANN ARBOR, MICH., May 10, 1892.

ANOTHER SOLUTION OF THE GREEK QUESTION.

TO THE EDITOR OF SCHOOL AND COLLEGE:

In your May issue appeared an article entitled, "A Recent Solution of the Greek Question." Some of its ideas and leadings are so mis-

chievous that they should not be permitted to pass without protest. Whether Greek shall be the prerequisite for admission to a university course of study is not what Prof. Fay really discusses. That question has for some time been settled in most of the American colleges outside of New England. Courses without Greek are common; though the degree conferred upon graduation from such a course is usually not A. B. Right here comes the dangerous innovation. To make Greek optional in the A. B. course is not, and should not be, generally approved. This breaks down distinctions and undermines foundations. Because the Harvard men have been extremely radical in this matter, why should other educators feel bound to follow?

Lavishing praise upon Greek while stabbing it from behind ought not to pacify its real friends.

To begin Greek in the Freshman year, following the lead of the State universities, is a step backwards. It is not progress in education, it is retrogradation. The plan of different courses, leading to different degrees, with elective opportunities, makes our system of higher education sufficiently elastic.

Why should we desire to pull down the old standards? It is easy to mistake deform for reform. If it should be generally understood that the student may take an English school course, enter as Freshman, and there begin Greek, receiving in four years the same degree as he who has prepared regularly, the inevitable result would be the lowering of standards by at least one year. If this is what Prof. Fay seeks, why does he not say so candidly and plainly? The recent remarkable cry, that it takes too long to go through college, has aroused vigorous opposition on the part of most of our scholars; and such a proposition would come with bad grace from Tufts, in view of the position of President Capen on that point, as indicated in a recent annual report.

It is true that a man may prepare well in Greek in one year — provided he is sufficiently mature, is given a special class for rapid work, and devotes half of all his time to the undertaking; but he cannot do so and carry his Freshman work at the same time. If the colleges generally will provide such a class, — as Tufts is doing, — all of those coming without Greek who wish or who can be persuaded to do so ought to enter that class; but they should not, as a general rule, graduate in four years. Some who are exceptionally strong, or who bring advanced credits, or who will study summers, may do so; but for the most part such students, to earn the A. B. degree, ought to be five-year men. What if they have had some extra history or English or elementary physics; what if they do take some extra electives in college? It won't hurt them.

The removal of compulsory Greek and the reduction of standards in Greek are not interchangeable propositions. Our better colleges are offering four solid years of Greek, — part of it elective, — besides requiring the preparatory work. When all other subjects are enlarging; when Greek is being handled more from a literary than from a "dry-bones" point of view; when it is being better taught and better appreciated than ever before; when the general development of the elective system enables us to present a good strong course, — why should we be willing to reduce our standards? Prof. Fay himself holds that, as the bearer of a rich and varied literature to which every modern literature is beholden, we may feel confident that so long as literary study has charms for men the study of Greek will occupy a prominent place among the higher cultural studies. Why, then, be willing to cripple this grand instrumentality of culture? It will be held that in the Tufts plan this is not the case — that reduction does not reduce. But this is fallacious. Not only does it reduce by one year the opportunity for election on the part of those adopting the new arrangement, but it tends toward putting all Freshmen on this easier basis, which would entirely eliminate the present Senior year's work. Again, it must not be forgotten that he who prepares in Greek while a Freshman loses half a year thereby. Unless he has brought advanced college credits, when is he to make up this lost half year? Viewed from any angle, the proposition looks downwards and backwards.

If "the intrinsic beauty and greatness of the speech of Hellas is beyond the shadow of a doubt," why put in the knife and cut out a year?

These things are not written out of conservative prejudice, or mere theory. As a teacher of Greek for fifteen years, I have had some experience in dealing with these problems. The methods approvingly indicated in this paper have been in successful operation at Buchtel for several years. Students who come without Greek take the philosophical or the scientific course (with appropriate degrees) in four years; or they spend five years — taking their preparatory Greek in a special fast class — and earn their A. B.

A considerable number have already done so; and I have yet to learn of one who has regretted it. Furthermore, during the last five years every Senior class has called for elective work in Greek. It would be decidedly interesting if New England colleges should yet have to look to Ohio for standards in scholarship.

WILLIAM D. SHIPMAN.

BUCHTEL COLLEGE, AKRON, O.

REVIEWS.

A Text-Book of Physics. Largely Experimental, on the basis of the Harvard College "Descriptive List of Elementary Physical Experiments." By EDWIN H. HALL, PH. D., Assistant Professor of Physics in Harvard College, and JOSEPH Y. BERGEN, JR., A. M., Instructor in the Harvard Summer School of Physics, and Junior Master in the English High School, Boston. New York, Henry Holt & Co., 1891. — pp. xviii and 381.

Laboratory Exercises in Elementary Physics. By CHARLES R. ALLEN, S. B., Instructor in the New Bedford, Mass., High School. New York, Henry Holt & Co., 1892. — pp. vi and 277.

Since the change in the entrance requirements in physics made by Harvard in 1886 there have been several more or less successful attempts to provide a text-book of experimental physics which would enable teachers in high schools and academies to prepare their pupils to meet the Harvard requirement. The "Descriptive List of Elementary Physical Experiments," issued by the University, has served as a basis for this preparation in many schools, but on account of the brevity of the instructions given many teachers have been unable to get their classes to do satisfactory work with this outline as their only guide. Then, since the experiments were not arranged for developing the elements of the science in a systematic manner, but were intended rather to supplement the ordinary text-book work, there has always been the difficulty of finding a suitable text-book to accompany them; for it is fatal to all real thinking on the part of the pupil in any experimental science to have his work explained and his conclusions drawn before he has performed the experiment.

To overcome these difficulties, Messrs. Hall and Bergen have prepared this little book. By giving a large number of additional experiments, it fills up the gaps in the "Harvard Course," and thus adapts it much better to the needs of those teachers who believe in *teaching* physics by the experimental method. The instructions for preparing apparatus and performing the experiments are full, and usually very clear, so that a teacher with only a moderate training in laboratory methods should be able to carry his class successfully over all the work. The discussions which are interspersed with the experiments are intended to furnish the knowledge and the aid in inter-

preting results which the pupil would otherwise be obliged to get from text-books and lectures. They are judiciously arranged, are clear and concise, and are generally up to the times. The problems for testing the pupils' powers of applying general principles are numerous and well chosen.

On the whole, the book probably represents fairly the material and methods of instruction in elementary physics at Harvard, and goes far to strengthen the opinion, already formed by the writer of this article, that Harvard is giving the best undergraduate instruction in physics to be found in this country.

In some important respects, however, the book might be much improved. The illustrations, when not diagrammatic, are usually poor. The space devoted to magnetism and electricity seems very inadequate when one considers the special adaptation of these subjects to elementary experimental work and the important place which they occupy in modern investigation, to say nothing of their great industrial importance. In the subject of magnetism the book is especially disappointing. Notwithstanding the radical change in the point of view from which magnetic phenomena have come to be regarded within the last ten years, there is nothing in this book on the subject of magnetism or electro-magnetism which might not have been written fifty years ago. This might be excused in an author who is obliged to compile his material from text-books already published, but it is not what one would expect from an author who, like Dr. Hall, has become widely known for his investigations in this particular field.

Mr. Allen's "Laboratory Physics" evidently differs somewhat in purpose from the book already mentioned. The author seems to believe more fully in the idea that the pupil should acquire his first knowledge of the principles of the science through his own experience, instead of getting his notions from a text-book, and verifying some of them by experiment. This difference is very important to one who knows how difficult it is to prevent pupils from verifying their preconceived notions which happen to be wrong. This book is of a more elementary character than the other, and to a reader who is unacquainted with either of the authors it suggests more the workmanship of a teacher who has constantly before him a definite purpose to be accomplished with his pupils, aside from the mere acquisition of a knowledge of the facts and laws of the science. In beginning with the subject of Magnetism, the author has probably chosen that part of the science which is most fascinating to children, and which offers the fewest experimental difficulties, for the purpose of introducing his class to the more difficult work which is to follow.

The experiments are well chosen, are systematically arranged, and are so plainly described that pupils should be able to perform them with comparatively little assistance on the part of the teacher. There are a few exceptions to this, the most noticeable one being on page 177, where the pupil is told to hold an ivory ball pendulum to one side of its arc by means of the attraction of an electro-magnet, without any suggestion as to how a magnet is to be made to attract an ivory ball.

The questions at the end of each exercise are well adapted to awaken the thought of the pupils, but the number of deductive problems might well have been much increased. In the opinion of the present writer, both books would have been much improved by an adequate treatment of the subject of Static Electricity, a subject which lends itself readily to elementary experimentation, and which needs scarcely any outlay for apparatus. While it is true that the older text-books have erred in giving an undue proportion of their time to the discussion of the phenomena of static electricity, the fact remains that no adequate comprehension of modern electrical theories can be given from the discussion of the phenomena of Voltaic Electricity, alone, and many of the phenomena of currents are best explained by principles developed from a knowledge of static electrical phenomena. While Messrs. Hall and Bergen have given three simple experiments and about six pages of discussion to the subject of Frictional Electricity, Mr. Allen has omitted even to mention the fact that electricity can be produced by friction.

On the whole, these two books probably best represent the recent progress in the teaching of physics in the high schools of the country. Both are well adapted to the places which they are intended to fill. From a pedagogical standpoint, the writer is inclined to prefer Mr. Allen's book, while, as an exposition of the science, the other book is undoubtedly better. Both will certainly do much for the extension of sound methods of physics teaching in the high schools of the country, and it is much to be hoped that Messrs. Hall and Bergen's book will help to carry some of the advanced methods of the public schools into the colleges, where a change of this kind is so badly needed.

FERNANDO SANFORD.

LELAND STANFORD, JR., UNIVERSITY, May 9, 1892.

Soll und Haben (Debit and Credit), a novel by GUSTAV FREYTAG, condensed from the original, and edited with English notes for use in American schools and colleges. By IDA W. BULTMANN, Teacher of German in the Norwich Free Academy. Boston, Ginn & Co., 1892.

The writer well remembers the pleasure with which, many years ago, he read the novel entitled "Debit and Credit." This should rather be called a spirited paraphrase, than a translation, of Freytag's original, but it is a most attractive book, and it interested many English and American readers in the life of the Germans at a time when the study of the German language was far less common than at present. Freytag's romance retains the distinction of being, all things considered, the best German novel. There is in it that deliberate treatment of the characters which one finds in the best English novels. The style is scholarly and correct. The characters are typical characters from the different orders of German society. The book exalts the industry, loyalty, thrift, which are the virtues to which the wonderful success of the Germans, in the fields of trade and commerce, are due. And while the book exalts the practical virtues which lead to success, ample opportunity is found to touch the heart by the sad story of the decay of the fortunes of an aristocratic family, and as the writer skilfully traces the causes of embarrassment and downfall, he becomes a moral teacher whose words are full of warning for all readers. Nor should the thread of romance, the charming love story, which runs through the book, be forgotten.

It would be hard to name a book better worth reading by him who could understand and appreciate the German character than *Soll und Haben*. The difficulties in the use of such a classic in the German class-room have been two. First, the book is very long, and second, the copiousness of the vocabulary of the writer constantly leads him to the use of expressions which common-school dictionaries do not explain. Condensation and skilful, careful annotation are therefore needed to make of the book a text-book. Miss Bultmann has accomplished her task with much success. The selections are judiciously chosen. They give the gist of the story in about one third of the space of the original. The necessary connecting links have been supplied by the editor. The notes seem worthy of much commendation. The editor has skilfully divined the passages which needed explanation, and the explanations are clear and well expressed. The notes are placed at the foot of the page, an arrangement which is to be commended in a book intended for pupils of some degree of advancement. We believe this is the first German volume which has appeared in the "International Modern Language Series" of Professors Bôcher and Van Daell. The form, size, and general make-up are all admirable, and a better opening volume for the series could hardly have been desired. The book is a substantial addition to the apparatus accessible to teachers of German.

ROBERT P. KEEP.

Theoretical Difficulties in Modern Mathematics. By J. N. LYLE, Ph. D., Professor of Natural Science in Westminster College. St. Louis, 1891. Paper, pp. 15.

Associated with the above pamphlet are seven articles on various topics connected with mathematics; chiefly variable limits and the discussion of infinity. These articles appeared in the Missouri School Journal in 1887, 1888, and 1890, and form a part of a still more extended series. The central point about which the discussion revolves is non-Euclidean geometry and the conceptions of hyperspace. At the foundations of geometry lie certain assumptions universally admitted to be true, and associated intimately with them certain other assumptions whose truth is regarded as most probable. To the former class of assumptions the term "axioms" is applied, and to the latter the term "postulates." Prof. Lyle takes the position that the assumptions upon which the geometry of Euclid is based are absolutely true; and, furthermore, that no other hypotheses are in the slightest degree admissible. In the first of these two dogmas he is probably correct. In the second he will meet with almost universal dissent on the part of students whose mathematical knowledge is sufficient to render their opinions worthy of investigation. The history of geometrical progress has received but little attention in this country, and a brief summary of its most important discoveries may be of interest and of value to the readers of this review.

The fact became apparent long ago that the region of highest intellectual activity in the domain of mathematics lay in the direction of the development of methods. Now the Euclidean treatment of geometry, as we have inherited it from the ancient world, presents certain defects which have always been to mathematicians a source of perplexity. The great Legendre made a systematic study of the gravest of these difficulties, the question of parallels, and attempted to put the science of geometry on a surer logical basis. He assumed, as did Euclid, that space was infinite, or, what is the same thing, that a straight line is of infinite length; and proceeding from this starting-point, he succeeded in proving that the sum of the angles of a triangle could not exceed two right angles. But he failed in his attempt to prove that that sum could not be less than two right angles, and so failed in what he most desired to attain. Legendre's work, however, constitutes in many ways a real improvement on Euclid, and marks the first real advance made in geometry since the days of the Alexandrian geometers. The next step made was by Lobatschewsky, who developed the elements of a perfectly consistent geometry in which the sum of the angles of a triangle is less than two right

angles. To this system the author gave the name "Imaginary Geometry," but it is now usually designated as "Hyperbolic Geometry."

The system discovered by Lobatschewsky was also discovered independently by Gauss and by J. Bolyai, and was developed by the former much more elaborately than had been done by Lobatschewsky. Gauss, indeed, must justly be regarded as the founder of non-Euclidean geometry; and his researches gave to this fascinating subject an impulse that has been felt throughout the entire mathematical world. Riemann and Helmholtz have carried this subject still further, and have shown that a consistent geometry can be built up on the assumption that the sum of the angles of a triangle is greater than two right angles; but this geometry necessitates the assumption that all straight lines are of finite length, or that a straight line if sufficiently produced will return into itself. This is usually termed "Elliptic Geometry." Brief mention must also be made of the projective geometries of Von Standt and of Klein, both of which still present rich fields for investigation to the student of mathematics. Much has been published on this subject by Story, the great American mathematician, and further developments are expected from him in the near future.

The ideal geometry is the geometry which is based upon the fewest possible suppositions, and upon suppositions which admit of the smallest possibility of doubt. From a strictly philosophical point of view, no geometry has ever been invented which is better than the geometry of Euclid, or even equal to it. Nor is it easy to see how mathematicians can ever look for the invention of such a geometry. But the various forms of non-Euclidean geometry have supplemented the Euclidean in a most valuable manner, and have contributed most powerfully to the general advancement of mathematical science. The leading mathematicians of the present day are the young Frenchmen who are devoting themselves with such enthusiastic ardor to the advancement of pure science; and the writer expects to see in the near future a marked impulse given by them to this, the oldest and most profound of all the sciences.

LEVI L. CONANT.

WORCESTER POLYTECHNIC INSTITUTE.

AMONG OUR EXCHANGES.

The *Pedagogical Seminary* for June begins its second volume most happily. Retaining its serious and scientific characteristics, it is more readable than ever before. Certain articles, as Miss Whiting's "Individuality of Numbers" and Mr. Dresslar's "Sketch of Old School Houses," will interest *all* teachers. Perhaps none but the thoughtful

would find value in Dr. Burnham's "Outlines of School Hygiene," or in Dr. Hall's "Moral Education and Will Training," which are the strongest articles of the number. Dr. Burnham concludes that no great discoveries are needed to secure proper hygienic conditions in the school-room; the facts are known, and remedies have been devised for the evils. They are, however, only partially applied in particular schools. "Short periods of study, alternating with periods of recreation and exercise, few hours of home study, and plenty of sleep, are evidently the conditions of efficient mental work," he declares. Dr. Hall's examination of the means of will training is a masterly application of the fruits of psychology to every-day school problems; it is profound, but at the same time delightfully simple in presentation. Mr. Dresslar's brief article on "Fatigue" sounds another and a vigorous protest against over-work in the teacher and over-pressure on the scholar. And the editorial pages emphasize the concluding thought, "What shall a child give in exchange for his health, or what shall it profit a child if he gain the whole world of knowledge and lose his own health?"

The *Classical Review* for June appeals, as always, to a select few, and is "caviare to the general." Mr. Headlam's article on "Early Athenian History," however, will have interest for students of history, as well as of the classics. Mr. Kenyon describes a Medical Papyrus recently acquired by the British Museum; Mr. Hardie complains of the neglect of the study of Greek Lyric Metre, pointing out the way to improvement; and there are more than a score of minor articles. Our readers will be glad to see a brief report, borrowed from the Athenæum, of the excavations of the American School on the site of the Heraion. The remains of the first temple, burnt B. C. 429, were found, and a rich harvest of ancient pottery, terra-cottas, and bronzes, having important bearings on the early history of art, was secured. The excavations are to be continued next year.

The *Schoolmaster* comes freshly to our desk from London, laden with tidings of the progress of English elementary education. The superannuation of teachers seems now to be the burning question and is evidently made a matter of practical politics. The number for July 2 contains a scathing denunciation of the action of the Brighton School Board in dismissing a faithful and efficient teacher because the grant earned by the Brighton schools was not the highest in the kingdom, but only second. Payment by results evidently has its disadvantages. In the same number are given the London Matriculation Examinations for June, 1892, in Latin, Greek, French, and German, which may profitably be compared with our own entrance examination questions.

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May and June, 1892.

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 Apparatus for Teaching Greek. T. W. HADDON. *School and College*, June.
 Argument for the High School. R. S. KEYSER. *Academy*, June.
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